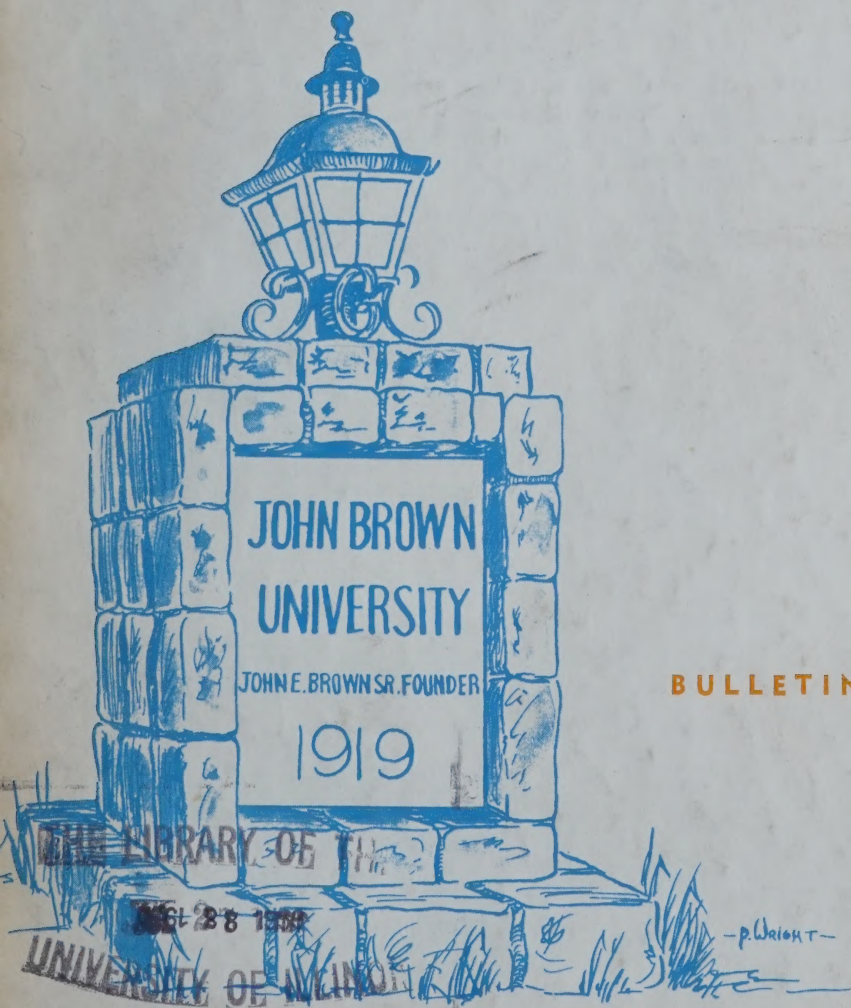


ANNOUNCEMENTS FOR 1959-1960

C
JG15I
1959/60

John Brown University

Siloam Springs, Arkansas



FOREWORD

It is understood that attendance at John Brown University is a privilege and not a right, which privilege may be forfeited by any student who does not conform to the traditions and regulations of the institution, or who is unwilling to adjust himself to the school's environment.

PRINTED BY

JOHN BROWN UNIVERSITY PRESS

SILOAM SPRINGS, ARKANSAS

JOHN BROWN

UNIVERSITY BULLETIN

SILOAM SPRINGS, ARKANSAS



Accredited by the Arkansas State Department of Education as a four-year, degree-granting college and for the preparation (for certification) of teachers for the public schools of Arkansas. Approved for the education of veterans under the Veterans' Administration.

Announcements for 1959-60

JOHN BROWN UNIVERSITY BULLETIN
Vol. 29, No. 2

JUNE, 1959

Published quarterly by John Brown University.
Entered at the post office of Siloam Springs, Arkansas, as second class matter
under the Act of Congress of August 24, 1912.

UNIVERSITY CALENDAR

Scheduled Dates

1958-59

Events

Scheduled Dates

1959-60

Fall, 1958

Fall Semester

Fall, 1959

Sept. 14	Students Arrive	Sept. 13
Sept. 15	Fall Semester Officially Opens	Sept. 14
Sept. 15-16	Orientation	Sept. 14-15
Sept. 16-17	Registration	Sept. 15-16
Sept. 18, 7 a.m.	Fall Semester Classes Begin	Sept. 17, 7 a.m.
Sept. 20	Faculty Reception of Students	Sept. 19
Nov. 27	Thanksgiving (holiday)	Nov. 26
Dec. 1-11	Pre-registration for Spring Semester	Dec. 1-11
Dec. 19, 12 noon, to		Dec. 17, 12 noon, to
Jan. 5, 1959, 7 a.m.	Christmas Vacation	Jan. 4, 1960, 7 a.m.
Jan. 19, 1 p.m., to		Jan. 21, 1 p.m., to
Jan. 24, 11 a.m.	Examination Week	Jan. 27, 11 a.m.
Jan. 24, 12 noon	End of Fall Semester	Jan. 27, 12 noon
Oct. 18-19		Oct. 17-18
Nov. 15-16	Weekends Designated for Leaves	Nov. 14-15

SPRING, 1959

SPRING SEMESTER

SPRING, 1960

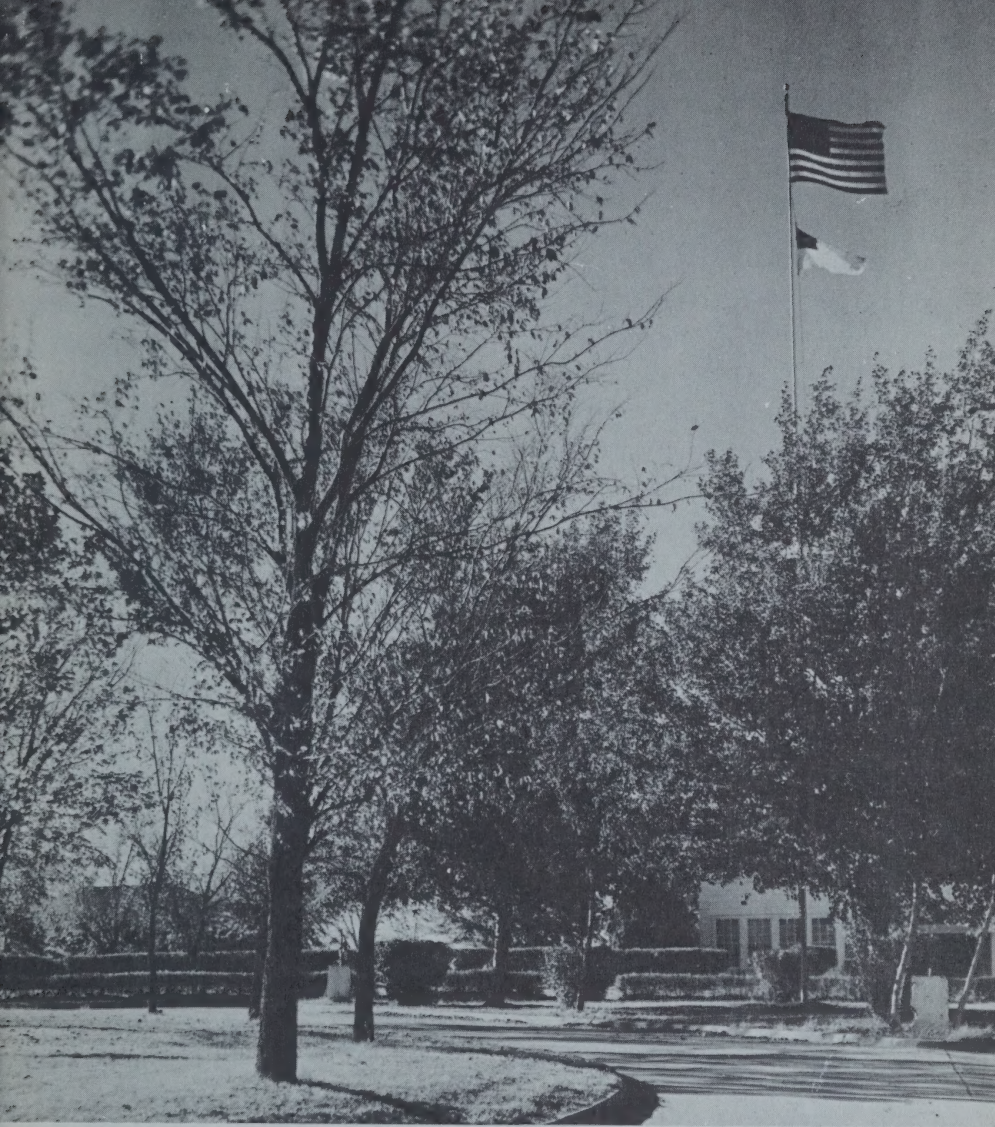
Jan. 26, 7 a.m.	Registration	Jan. 27, 1 p.m.
Jan. 27, 7 a.m.	Spring Semester Classes Begin	Jan. 28, 7 a.m.
Feb. 21	Washington Birthday Banquet	Feb. 20
March 17	Engineers' Day	March 17
March 26, 12 noon, to		April 14, 12 noon, to
April 1, 1 p.m.	Easter Vacation	April 20, 1 p.m.
April 2	Founders' Day	April 2
April	Spring Bible Conference	April
May 11-23	Pre-registration for Fall Semester	May 9-21
May 25-29	Examination Week	May 23-27
May 29, 4 p.m.	Awards Convocation	May 27, 4 p.m.
May 29, 7:30 p.m.	Baccalaureate Service	May 27, 7:30 p.m.
May 30, 10 a.m.	Commencement Exercise	May 28, 10 a.m.
		Jan. 30-31
Feb. 28-March 1		Feb. 27-28
May 2-3	Weekends Designated for Leaves	March 26-27

SUMMER, 1959

SUMMER SESSION

SUMMER, 1960

June 8, 7-12 a.m.	Registration	June 6, 7-12 a.m.
June 8, 1:10 p.m.	Summer Session Classes Begin	June 6, 1:10 p.m.
July 4	Independence Day (holiday)	July 4
Aug. 1	End of Summer Session	July 4



Under Two Flags

The loyalties of JBU students are symbolized by these emblems—the flags of our faith and of our nation. “Christ Over All” is the motto of the school which has, since 1919, been “training youth to live.”

No man can serve two masters, but when that man is serving Christ, he is living the life that is the ideal of American democracy. It is the aim of John Brown University to offer training for the head, the heart, and the hand, in an effort to make our youth worthy of the names “Christian”. and “American.”

Believing that spirituality is the bulwark of the American heritage, here is a university which teaches youth to set their eyes on things that are eternal while performing skillfully their allotted portion of this world’s work. The future is ours, and we are His, as we press onward under two flags.

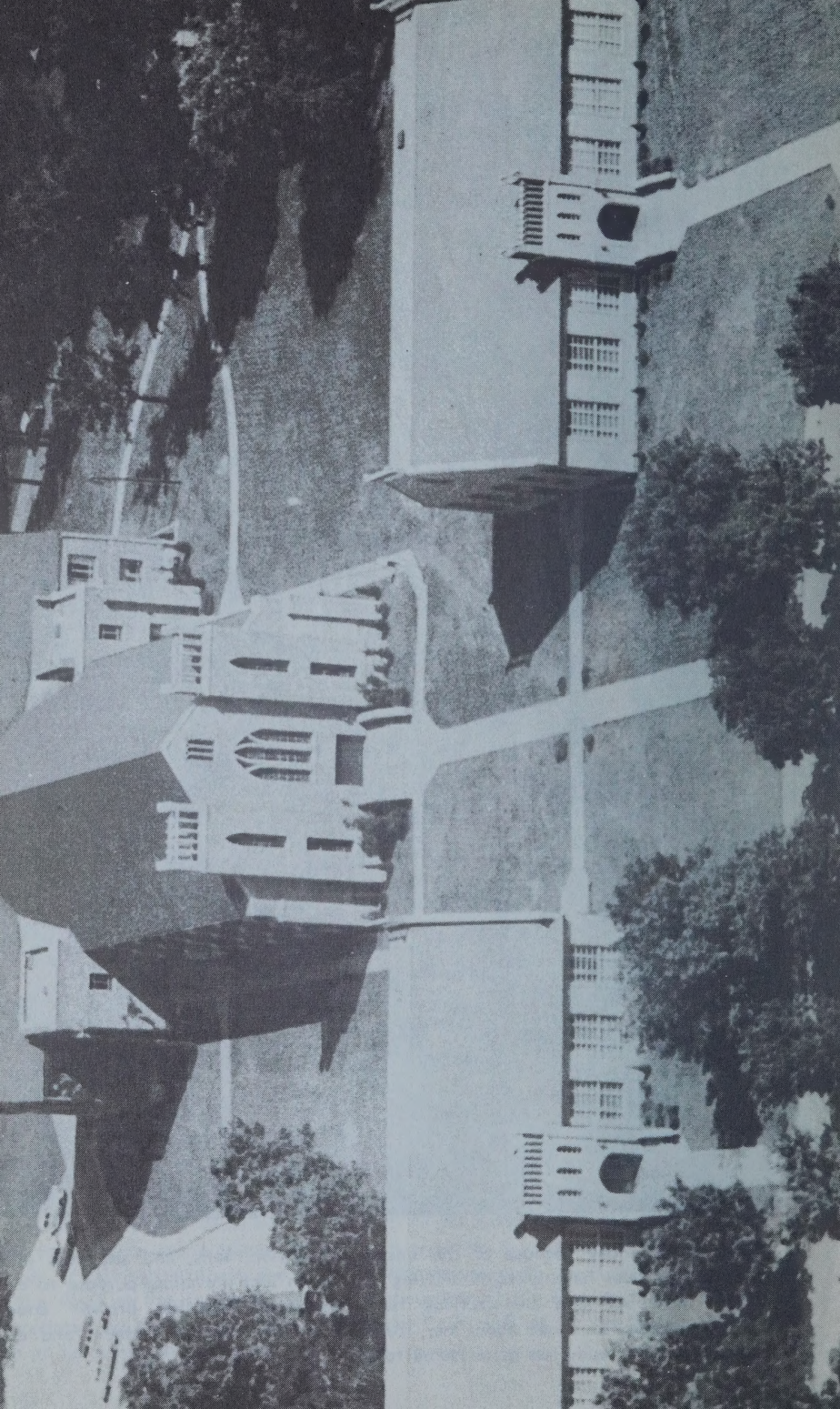


Numbered among the personal friends of every JBU student is the president himself.

One of the first pleasures that comes to an entering student is the realization that this affable young fellow with the warm smile is none other than Dr. John E. Brown, Jr. Though business and administrative duties press, he is still a ready listener to the voice of the students, and the graciousness of his manner makes him doubly appreciated by the entire "University family," as well as by the others who know him in his many contacts.



JBU exists today because of the unselfish devotion, toils, and sacrifices of its founders. Their lives have brought undying inspiration and prevailing purpose to every life their influence and benefactions have embraced. "Mother Brown" endears herself even more to those about her, because of her continuing charm and quiet confidence since "Daddy has gone Home to rest."



BOARD OF TRUSTEES

Terms expiring 1960

ROY I. BAGLEY, Fayetteville, Arkansas
R. W. FAIR, Tyler, Texas
STEARNS GARDNER, Oklahoma City, Oklahoma
E. WILLIAM GEORGE, Long Beach, California
GEORGE F. IVEY, Springdale, Arkansas
EDWARD MAGOUIRK, Dallas, Texas

Terms expiring 1961

JOHN POE HENSLEY, Duncanville, Texas
RICHARD HODGES, Siloam Springs, Arkansas
ROBERT W. HYDE, Jackson, Mississippi
CHARLES A. NEAL, Miami, Oklahoma
CARLTON WILLIAMS, San Diego, California
POE WILLIAMS, Oklahoma City, Oklahoma

Terms expiring 1962

CLINTON FOWLER, Long Beach, California
R. W. JACKSON Lincoln, Nebraska
E. FRED JOHNSON, Tulsa, Oklahoma
WILLIAM MORRIS, Tulsa, Oklahoma
GORDON PALMER, Los Angeles, California
JOHN A. STORM, Tulsa, Oklahoma

FACULTY

ADMINISTRATION

- JOHN E. BROWN, JR., LL.D.; President; 1943, 1946.
Holly Place, Siloam Springs. Phone: 170.
- ROGER F. COX, M.S.; Registrar; 1936.
Holly Place, Siloam Springs. Phone: 945.
- MISS ARDA E. FRANS, B.A. in L.S., M.A.; Librarian; 1957.
Campus, John Brown University, Siloam Springs. Phone: 77.
- STUART R. SCHIMPF, D.D.; University Pastor; 1945.
708 South Madison, Siloam Springs. Phone: 943.
- CECIL E. SMITH, B.S.; Director of Radio Station KUOA; 1939-43, 1947.
North Dogwood, Siloam Springs. Phone: 410.
- JOE R. SMITH; Director of Vocational Training; 1928.
North Dogwood, Siloam Springs. Phone: 667.
- MARION SNIDER, B.S.; Bursar, and Manager of Allied Industries;
1940.
321 North Madison, Siloam Springs. Phone: 414.
- STEWART SPRINGFIELD, B.S. in B.A.; Business Manager; 1933.
Holly Place, Siloam Springs. Phone: 129.
- L. AUDREY THOMAS, M.R.E.; Dean of Students; 1945-47, 1948-50,
1951-52, 1957.
South Holly, Siloam Springs. Phone: 438-W.
- ROGENE O. WEATHERS, Ed.D.; Dean of the Faculty; 1939-40,
1947-50, 1952.
715 West University, Siloam Springs. Phone: 887.

INSTRUCTION

PROFESSORS

- ROGER F. COX, M.S.; Mathematics; 1936.
B.A., John Brown University; M.S., Oklahoma State University;
candidate for Ed.D., University of Arkansas. Additional graduate
study, University of Chicago, and University of Minnesota.
Holly Place, Siloam Springs. Phone: 945.
- IVAN C. ELLIS, Ph.D.; History, and Religious Education; 1952.
A.B., Seattle Pacific College; Th.B., Th.D., Northern Baptist
Theological Seminary; Th.M., Ph.D., University of Southern Cali-
fornia.
836 South Elm, Siloam Springs. Phone: 638.

MISS MABEL OIESEN, M.Mus.; Music (Voice, and Choral Conducting); 1942.

B.Mus., The College of Wooster; M.Mus., Cincinnati Conservatory of Music. D.Mus. (honorary), Bible Theological Seminary of Los Angeles. Additional study: in voice with Yeatman Griffith, New York, and with Dr. John Hoffman, Cincinnati; in opera with Ralph Errolle, New York; Smith College; The Biblical Seminary in New York; New Jersey State Teachers College; Columbia University; Christiansen Choral School; and Paul Christiansen Choral School.

124 North Dogwood, Siloam Springs. Phone: 767.

JOHN H. PANAGE, Ph.D.; English; 1939-42, 1946.

M.A., Boston University; M. A., Emory University; Ph.D., University of Minnesota. Additional graduate study, Princeton University.

203 South Wright, Siloam Springs. Phone: 106.

CECIL E. SMITH, B.S.; Electrical Engineering; 1939-43, 1947.

B.S., John Brown University. Additional study, San Diego Aero-Marine Radio and Navigation School. Graduate study, Bowdoin College, Massachusetts Institute of Technology, Oklahoma Agricultural and Mechanical College, University of Arkansas. Member, Institute of Radio Engineers.

North Dogwood, Siloam Springs. Phone: 410.

EARL C. SMITH, M.A.; Bible, New Testament Greek, and Religious Education: 1937.

B.A., Abilene Christian College; M.A., University of Oklahoma. D.D. (honorary), Bob Jones University. Additional graduate study, Mercer University, Central Baptist Theological Seminary, Northern Baptist Theological Seminary, and Winona Lake School of Theology.

South Holly, Siloam Springs. Phone: 438-X.

S. RODMAN STOUT, B.S.A.; Agriculture; 1931-43, 1954.

B.S.A., and graduate study, University of Arkansas.

R.F.D. 2, Siloam Springs. Phone: 794-J.

ROGENE O. WEATHERS, Ed.D.; Education; 1939-40, 1947-50, 1952.

B. S., John Brown University; M.Ed., University of Missouri; Ed.D., University of Arkansas.

715 West University, Siloam Springs. Phone: 887.

IRVIN A. WILLS, Ph.D.; Biology; 1935.

B.S. Wheaton College; M.S., Ph.D., State University of Iowa. Graduate seminars, University of Arkansas.

South Holly, Siloam Springs. Phone: 438-J.

MISS DOROTHY J. WOODLAND, Ph.D.; Chemistry; 1944.

B.S., The College of Wooster; M.Sc., Ph.D., The Ohio State University. Additional graduate study, University of Minnesota.

124 North Dogwood, Siloam Springs. Phone: 767.

ASSOCIATE PROFESSORS

- MRS. AGNES E. FILLER, M.A.; Home Economics; 1957.
B.S., Southwest Missouri State Teachers College; M.A., University of Missouri. Additional graduate study, University of Southern California, University of Chicago, and The Ohio State University.
Campus, John Brown University, Siloam Springs, Phone: 77.
- MRS. IRENE JADERQUIST, M.A.; Social Studies; 1949.
B. A., M.A., University of California. Additional graduate study, University of Washington. Supervisor's and Administrator's credential, University of California.
Dogwood Court, Siloam Springs. Phone 1084.
- RALPH C. KENNEDY, M.A.; Speech, and Radio Production; 1946.
B.S., John Brown University; M.A., candidate for Ph.D., University of Arkansas. Additional graduate study, University of Wisconsin. National Broadcasting Company-University of California at Los Angeles Summer Radio Institute. Radio-Telephone License, First Class.
221 East Harvard, Siloam Springs. Phone: 643.
- FRED W. OLNEY, B.S.; Mechanical Engineering; 1945.
B. A., John Brown University; B.S., and graduate study, Agricultural and Mechanical College of Texas; M.S., University of Arkansas. Registered Professional Engineer (Arkansas).
South Holly, Siloam Springs. Phone: 783-W.
- JOHN H. PICKLE, M.A.; Education, and Psychology; 1945-49, 1951.
B.A., University of Mississippi; M.A., University of Wisconsin. Additional graduate study, University of Chicago, and University of Arkansas.
Kamp Paddle Trails, Watts, Oklahoma.
- STUART R. SCHIMPF, Th.B.; Bible, and Religious Education; 1945.
B.A., Maryville College; Th.B., Princeton Theological Seminary; D.D. (honorary), Bob Jones University.
708 South Madison, Siloam Springs. Phone: 943.
- MRS. RUTH P. TAYLOR, M.Comm.Ed.; Business; 1947-50, 1952.
B.S., Oklahoma Central State College; M.Comm.Ed., University of Oklahoma.
South Holly, Siloam Springs. Phone: 783-J.
- HUBART L. WHITE, M.S.; Physical Education; 1948-50, 1952.
B.S., M.S., Oklahoma State University.
Campus, John Brown University, Siloam Springs. Phone: 77.
- CHARLES D. WILLIS, B.Arch.; Building Construction and Design; 1946.
B.S., John Brown University; B.Arch., University of Arkansas. Additional study, University of Cincinnati, and Klok Institute.
Campus, John Brown University, Siloam Springs. Phone: 621-X.

MRS. IRVIN A. WILLS, M.A.; Music (Violin, and Ensemble), and English; 1935.

B.A., Des Moines University; M. A., State University of Iowa. Graduate of Ottumwa College of Music. Additional study, Parsons College. Pupil of Frank Kendrie. Special study in reading effectiveness, Texas Christian University.

South Holly, Siloam Springs. Phone: 438-J.

ASSISTANT PROFESSORS

MAX N. BRAMMER, B.S.; Mechanical Engineering; 1948.

B.S., John Brown University. Graduate study, University of Arkansas.

304 East Helena, Siloam Springs. Phone: 439.

STEPHEN C. DEARBORN, M.E., Th.M.; Mechanical Engineering, and Bible; 1958.

M.E., University of Cincinnati; B.D., Th.M., Northern Baptist Theological Seminary; candidate for Th.D. degree, Grace Theological Seminary. Additional study, Moody Bible Institute, and Rockmount College.

1011 South Maxwell, Siloam Springs. Phone: 987.

MISS ELLA MAY MASON, M.F.A.; Art; 1959.

B.F.A., M.F.A.; School of The Art Institute of Chicago.

851 South Wright, Siloam Springs. Phone: 1045.

MISS RUTH E. SMITH, M.Mus.; Music (Piano, and Theory); 1952.

B.Mus., John Brown University; M.Mus., Cincinnati Conservatory of Music.

North Dogwood, Siloam Springs. Phone: 667.

W. PAUL WHITMORE, B.S.; Mathematics, and Music; 1947.

B.S., Florida Southern College. Additional study, John Brown University, and School of Pianoforte Technology. Graduate study, University of Arkansas.

South Holly, Siloam Springs. Phone: 815.

JOE M. ZIMMERMAN, M.Mus.; Music (Piano, Organ, and Theory); 1956.

B.Mus., John Brown University; M.Mus., Cincinnati Conservatory of Music. Additional graduate study, University of Tulsa, and Indiana University.

Campus, John Brown University, Siloam Springs. Phone: 77.

INSTRUCTORS

L. BERTICE FRYE, B.S.; Physics, and Mechanical Engineering; 1957.

B.S. in M.E., Missouri School of Mines and Metallurgy; B.D., Grand Rapids Baptist Theological Seminary and Bible Institute. Additional study, Faith Theological Seminary, and Michigan State University.

420 North Madison, Siloam Springs. Phone: 813.

MRS. ELISE LANCASTER, B.M.; Music (Violin, Instrumental Ensemble, and Theory); 1956.

B.M., The Conservatory of Music of Kansas City. Additional study, University of Arkansas.

Campus, John Brown University, Siloam Springs. Phone: 182-X.

DAVID P. MOORE, M.A.; Modern Foreign Languages; 1957.

B.S., University of Illinois. M.A., State University of Iowa. Additional study, University of Heidelberg, University of Amsterdam, and University of Arkansas.

Campus, John Brown University, Siloam Springs.

JAMES V. PEARSON, B.E.E.; Electrical Engineering; 1959.

B.E.E., University of Minnesota.

609 West University, Siloam Springs.

ORA M. WELLMAN, B.S.; Business; 1957.

B.S., Purdue University. Additional study, Indiana University, and University of Arkansas.

Campus, John Brown University, Siloam Springs. Phone: 661-W.

STAFF

MRS. CHRISTIE BARNES, Manager of Bookstore and Coffee Shop

WILLIAM J. GILMORE, Plant Superintendent

ROY A. GRIFFITH, Printing Department Manager

MRS. JULIA E. HOLLIDAY, Cafeteria Manager

RALPH C. KENNEDY, Program Director, Radio Station KUOA

GREEN D. KING, Supervisor of Dairy

MRS. MARTHA McCLESKEY, Resident Head of Women's Dormitory

MYRON J. PETERS, Manager, Spring Valley Farm

GLENN E. ROGERS, Assistant Librarian, and Director of Audio-Visual Services

JAMES L. SHEETS, Director of Public Relations, Recruitment, and Admissions

WILLIAM J. SILLIS, Airport Manager

MRS. TARVER SMITH, Alumni Secretary

SAM J. STARKEY, Public Relations Representative, and Basketball Coach

S. RODMAN STOUT, Farms Manager

TROY D. THOMAS, Printing Presswork Supervisor

EARL VER HOEVEN, Building Maintenance Superintendent

HAROLD C. WARD, Production Superintendent

HUBART L. WHITE, Director of Athletics

GENERAL INFORMATION

John Brown University was founded on a sincere faith in the potentialities of young people—and in their abilities, their earnestness, and their idealism. This faith is one which has brought forth a new approach to higher education which has demonstrated in wisdom and workability in the lives of hundreds of young people who have gone out from John Brown University into almost every area of human activity, skilled, cultured, and with character molded to take a vital and active part in the communities with which they become associated. Further witness to the worth of this program of education is found in the high morale of student body and faculty, often commented upon by even casual visitors.

ARTICLES OF FAITH

As a Christian institution, John Brown University holds to the interdenominational doctrinal position identified by the following statements:

1. We believe the Bible to be the inspired, the only infallible, authoritative word of God.
2. We believe that there is one God, eternally existent in three persons: Father, Son and Holy Spirit.
3. We believe in the deity of our Lord Jesus Christ, in His virgin birth, in His sinless life, in His miracles, in His vicarious and atoning death through His shed blood, in His bodily resurrection, in His ascension to the right hand of the Father, and in His personal return in power and glory.
4. We believe that for the salvation of lost and sinful man regeneration by the Holy Spirit is absolutely essential.
5. We believe in the resurrection of both the saved and the lost; they that are saved unto the resurrection of life and they that are lost unto the resurrection of damnation.
6. We believe in the spiritual unity of believers in our Lord Jesus Christ.
7. We believe in the present ministry of the Holy Spirit by whose indwelling the Christian is enabled to live a godly life.

(These are the articles of faith adopted by the National Association of Christian Schools.)

HISTORICAL AND PHYSICAL BACKGROUND

Establishment and Growth

The history of the institution of higher learning now known as John Brown University began in 1919 with the filing of articles of incorporation with the Secretary of State of Arkansas. This new institution, founded by John E. Brown, widely known evangelist and lecturer, was called Southwestern Collegiate Institute. Under the laws of the state, this all-the-year school was empowered to offer instruction in

technical and vocational fields in addition to usual college subjects. The claim to uniqueness of this institution rests on the further fact that vocational training at the college level was to be required of each student. An elementary and secondary school program was operated in conjunction on the same campus.

In 1920 the name of the institution was changed to John E. Brown College, which organization carried on the same program and ideals. In the same year a companion school, the Siloam School of the Bible, was founded, and operating largely at the junior college level, a strong and purposeful student body was built.

In 1934 amended articles of incorporation renamed the institution John Brown University, which comprised colleges known as the John E. Brown College, Siloam School of the Bible, and John E. Brown Vocational College. A preparatory department to be called the Julia A. Brown School also was provided for. The new corporation was authorized to confer such degrees as the Bachelor of Arts, the Bachelor of Science and the Bachelor of Theology, as governed by the Arkansas State Department of Education. Also in this year, in addition to becoming a four-year degree-granting institution, the University was empowered to offer teacher training courses which would apply toward certification by the State.

For purposes of efficiency and simplification of management, early in 1948 the Administrative pattern of the University was re-organized, and the colleges forming the institution were merged into a single unit. This provided administrative machinery more appropriate to the size of the institution. Curricular offerings continued to be as broad as previously, and courses in the large number of departments were organized into thirteen divisions. In 1958, the divisional structure was further altered to group the departments into five broad areas of knowledge, or divisions.

From its beginning in 1919, the school has been coeducational, and the fact that its student body is typically drawn from thirty or more states as well as from several foreign countries, shows that it is not a regional institution but is cosmopolitan in many respects. Although the larger portion of the student body does come from Arkansas and the surrounding states, its unique program has attracted students from across the nation and states as far away as California and Pennsylvania often have substantial representation.

Affiliated Schools

Affiliated with John Brown University are three preparatory schools in California: the Brown Military Academy at Glendora, the Southern California Military Academy at Long Beach, and the Brown Day School at Beverly Hills. All of these schools stress a strong academic program in a Christian atmosphere, and are operated the year around.

The programs of all the John Brown Schools, and particularly that of John Brown University, have received high commendation.

This is due in large measure to the strong programs offered, and to the outstanding records made by graduates, both in a variety of employment situations, and as students in leading graduate schools. Ministerial graduates are serving in some of the finest churches in the southwest, and their sphere of service is increasing rapidly as the years pass.

LOCATION AND GENERAL FACILITIES

John Brown University is located at Siloam Springs, Benton County, in the northwest part of Arkansas, near the Arkansas-Oklahoma boundary. It is 228 miles south of Kansas City, Missouri; 90 miles east of Tulsa, Oklahoma; 239 miles northwest of Little Rock, Arkansas; and 270 miles north of Texarkana, Arkansas. John Brown University is easily accessible from all parts of the state, being on the Kansas City Southern Railroad and at the intersection of principal highways. Bus lines reach Siloam Springs from Joplin, Missouri; Rogers and Fayetteville, Arkansas; and Tulsa, Muskogee, and Stilwell, Oklahoma.

Siloam Springs is located in the foothills of the beautiful Ozarks at an elevation of approximately 1,150 feet above sea level. The seasons are delightfully mild. Siloam Springs is far enough south to insure mild winters, and the summer nights are pleasantly cool. Northwest Arkansas is noted as a summer retreat for many thousands of tourists from all sections of the United States. Siloam Springs is considered a very healthful place and has never had an epidemic of serious proportions.

Part of the campus lies within the corporate limits of Siloam Springs, and the grounds cover several hundred acres. The University owns other lands adjacent to Siloam Springs but lying in the State of Oklahoma. Several farms in both Arkansas and Oklahoma belong to the University and are operated as part of the regular farm program. These lands are equipped with houses, barns, and other buildings and are used for instructional and productive purposes.

Continuing improvements in its physical plant have provided a notably attractive campus for John Brown University. At its center stands the Cathedral Group composed of the Science Hall, completed in 1958, the beautiful new library, and the Cathedral of the Ozarks which contains classrooms, music and radio studios, and a spacious and beautiful sanctuary. Current reconstruction of two buildings is providing new laboratories and facilities for the engineering departments; an extensive program of remodeling and expansion of residence halls is under way. Nothing has added more to student life than the recreational center; facilities include a lighted field, a large swimming pool, a spacious recreational building, concrete tennis courts, and picnic grounds with outdoor fireplaces. Developments and additions are continually in progress with a view to constant improvement of the campus.

VISITORS TO THE UNIVERSITY

John Brown University is open at all times to individuals or organizations wishing to visit the campus.

EDUCATIONAL PROGRAM

Colleges and universities have been piloted toward many and various goals: training for leadership, for citizenship, for earning a living, for the development of character, and for improving the mind. All of these are expressions of wholly admirable purposes; yet the educational process ought to be a matter of living now as best preparation for living at a later date; of students possessing and using now those qualities, attitudes, and habits which are fundamental to a good and rational life. Education, by its very nature, is a matter of living; no learning occurs apart from experience.

UNIVERSITY OBJECTIVES

In the light of this concept of education, together with a conviction of the importance of scholarship in the finest of Christian tradition, the faculty has expressed its purpose as follows: *It is our objective to send forth, at graduation, young people—*

Whose lives reflect the love of Christ—

We wish our graduates always to be consecrated to Christ, whether engaged in full-time service of the church or the mission field, or secular activities. We desire to equip them with knowledge of the Bible, believing that such knowledge rightly assimilated and developed permeates and directs all phases of life. We expect to find our graduates continuing to participate in Christian activities, with talents and means, being reverent toward God, and showing tolerance, humility, and helpfulness toward other people.

Who possess intellectual integrity and an enthusiasm for continued, directed self-development—

We believe that our graduates ought to be inclined to search for alternatives in any situation, and to be experienced in mental processes which effectively lead to intelligent decisions and relevant judgments. We further deem it necessary that our graduates be aware of sources of information, have experience in techniques for the utilization of knowledge, and have some mastery of the means for the communication of ideas.

Who are eager and able to perform a share of the world's work—

We have as one objective the graduation of persons who are experienced in the activities of a selected vocation. We wish our graduates to go into a vocation, whether in the business world, in teaching or other professions, or in the sphere of the church or the home, trained in technique, equipped with an understanding of fundamental principles, and strengthened by the requisite qualities of character.

Who make worthy contributions to their communities—

We wish our graduates to cooperate with other people toward general community betterment. Such cooperation may be in the form of active participation or leadership, enthusiastic endorse-

ment of desirable enterprises, or financial support. We expect our graduates to promote an adequate educational program, wholesome entertainment for youth, and other phases of community welfare, to exercise all political privileges in the spirit of Christ, and to hold high Christian ideals of justice toward every race and class of humanity.

DIVISIONS OF INSTRUCTION

The divisions of instruction in John Brown University, together with the departments they contain, are as follows:

Arts and Literature: Departments of Art, English, Modern Foreign Languages, Music, Radio Production, and Speech.

Bible and Religion: Departments of Bible, New Testament Greek, and Religious Education.

Engineering: Departments of General Engineering, Building Construction and Design, Electrical Engineering, and Mechanical Engineering.

Natural Science: Departments of Agriculture, Biology, Chemistry, Home Economics, Mathematics, and Physics.

Social Studies: Departments of Business, Education, Physical Education, Psychology, Economics, Geography, History, Political Science, and Sociology.

AREAS OF OCCUPATIONAL EMPHASIS

The educational program at John Brown University is so organized as to contribute to the occupational preparation of young people who desire to enter particularly the following fields:

CHRISTIAN SERVICE

Foreign or Home Mission Work

(ministry, teaching, printing, aviation, radio, agriculture, building construction)

Pastoral or Evangelistic Ministry

(pre-professional, for entrance into advanced study)

Religious Education

(youth work, church music, Bible teaching)

TEACHING

Elementary

(with probable major in English or social studies)

Secondary

(English, social studies, mathematics, the sciences, business, music)

College

(pre-graduate training in English, social studies, biology, chemistry, mechanical engineering, electrical engineering, music)

BUSINESS FIELDS

Secretarial, clerical, management, sales, home-demonstration, advertising

ENGINEERING FIELDS

Electrical power, electrical design, radio and television, electronics, building construction, building design, mechanical design, pre-graduate training in electrical and mechanical engineering

SCIENCE FIELDS

Pre-professional training for medicine, public health, dentistry, nursing, medical technology; pre-graduate training in biology, chemistry; research assistant; agricultural research

RADIO PRODUCTION

Announcing, script-writing, sales, advertising

MISCELLANEOUS

Homemaking, preprofessional training for library science

THREEFOLD EDUCATION

In order to achieve these educational objectives, the John Brown University educational program has been developed so as to be, in the language of the campus, "THREEFOLD—training HEAD, HEART, and HAND." The respective phases of this program are integrated and interrelated in order to provide balance in the development of each individual student.

The training of the HEAD implies that type of education obtainable at all colleges and universities of acceptable standards. To the student it means a heightened awareness and deeper understanding of the world and its peoples, and a growing competence in meeting the challenges of everyday living. More extensive knowledge is acquired; appreciation of literature and art is enhanced; critical judgment is developed. Such training of the mind of the student is emphasized in the work of the classroom. Courses of study leading to Bachelor of Arts, Bachelor of Science and Bachelor of Music degrees have been carefully worked out in thirteen major fields (see page ??); in each course of study there are certain basic requirements so organized as to enrich and develop the mind of the student. All students, regardless of major field of study, are required to complete these courses in "general education."

In the Biblical sense, the HEART of man is his spiritual life. John Brown University was founded by one of the nation's leading evangelists; a strong evangelistic message is ever sounded on campus. The University maintains a strongly staffed Division of Bible and Religion, and its graduates have gone to many states and foreign fields in various walks of Christian service. The university is consistently interdenominational, holding steadfastly to the "Faith once delivered" and believing in these great foundation truths on which the great evangelical church of the ages past has been built.

Training of the HEART thus means an enriched Christian life. To achieve this goal, Bible study is an important part of the curriculum; each semester of attendance, therefore, each student is re-

quired to take one course in the Division of Bible and Religion. In addition, a program of Christian activities is maintained, including Sunday worship services, weekday chapel hours, weekly prayer meetings, student Christian organizations, special evangelistic services, missionary and Bible conferences. University students, not necessarily ministerial, also serve churches in the community.

That phase of the educational process at John Brown University which most clearly merits its being called unique is the training of the HAND—through organized, on-campus, employment-type work-experiences on the college level. These experiences are provided through regular assignments performed under supervision, during a designated schedule of hours each week. By means of this program, the student is trained to perform efficiently tasks which are to be anticipated in his life's work. Upon graduation, therefore, the student has the equivalent of several years of practical experience in his chosen occupation or profession to supplement his classroom training, and thus is enabled to go directly into employment without the long, disheartening preliminary period of the inexperienced person. Since this phase of the educational program is unique, a more complete presentation follows.

VOCATIONAL TRAINING

In the words of Dr. John E. Brown, founder of the University, that which is different and outstanding in the educational process at John Brown University is "not that the student is 'working his way to an education,' but, rather, that he is 'educating himself to his life's work.'" Students perform many tasks considered as "work," but these activities are planned for the individual as a valued part of his education—being closely related to his major field of study and his ultimate vocational objective—and bearing out Dr. Brown's philosophy of "the dignity of honest toil."

During recent years, a faculty committee has given continuous study to the various aspects of the vocational training program in order to ascertain to what extent it might need to be modified in the light of changing conditions to make it more meaningful. Some such modifications already have been introduced, and it is anticipated that even further modifications may be made from time to time in the light of new conditions which may develop.

Perhaps the most significant aspect of current modifications is that they are directed to the purpose of bringing the operation of the program as nearly as possible into a position of equality and parallelism to that of course work—in keeping with the traditional intent of the THREEFOLD educational program. This has involved a careful re-planning of facilities and procedures and the strengthening of supervision for the program. While the faculty believes that accomplishment of satisfactory levels of proficiency in the kinds of work students expect to do when they have finished college is more important than going through a routine of "putting in time," it recognizes a real value in the discipline of consistent work on a constructive task. This has led to the establishment of vocational training requirements which

are similar to course requirements as distinct parts of the total requirements for graduation.

The overall minimum vocational training requirement is described as corresponding to a total of 1200 work hours distributed throughout the four years of college (nominally 2 hours per day, 5 days per school week), and this has been translated into distinct credits earned through the performance of tasks involved in definitely-planned units of vocational training experience.

OPPORTUNITIES

Experiences in a wide range of occupational specialities are available through the vocational training program. Examples of these experiences include:

For business students, accounting, clerking, filing, business machine operation, secretarial work, and various management analysis projects are possibilities, in connection with the various University offices. Prospective teachers profit by training in the various activities in the library, as assistants to faculty members, and in various instructional activities, including the use of audio-visual facilities. Music students find their education enriched by experiences in supervising children in music lessons, planning and producing radio programs, work in the music library, public performance in nearby churches and schools, and in piano tuning and repair. Home economics students gain proficiency in planning, preparing, and serving meals, as well as in the designing, alteration, and construction of clothing, and in interior decorating and furniture upholstering. Some gain first-hand experience in quantity-cooking in the University cafeteria.

Students particularly interested in printing may gain both extensive and intensive experience in the University printing department, involving the operation of composing machines, presses, and bindery equipment, as well as the varied hand operations required in producing printed material. This is of particular value to those who anticipate opportunities for the use of printing in connection with foreign missionary service. Those who minor in agriculture have rich opportunities in the various activities involved in operating the University farms, with their purebred Hereford and Jersey herds.

Engineering students have opportunities to begin with fundamental principles and experiences in basic shop operations, and to advance to more responsible activities comparable to those of the professional engineer. Activities include the operation of industrial processing machines, testing and repair of electrical and electronic equipment, preparation of working drawings for industrial and construction operations, and design and production of various kinds of products for actual use, both by the University and by others.

For students inclined toward radio, the two campus radio stations, KUOA and KUOA-FM, provide abundant opportunity for student experiences both in the area of radio engineering and in the area of radio production. Under competent supervision, students perform all the essential functions in the operation of the station, from the handl-

ing of many routine matters, through the writing of script and announcing, to the planning and production of complete programs—and the operation and maintenance of the entire broadcasting facilities. Students having this experience are in particularly high demand.

INDUSTRIES

As adjuncts to the vocational training program, various business establishments are operated by the University, with a twofold purpose: (1) to extend the opportunities of students to receive beneficial training and experience under normal, productive circumstances; and (2) to provide services and products, the value of which is of material assistance to the University in holding to a minimum the total expense of operating the institution. In all situations, therefore, an atmosphere of productive employment is maintained. The income derived from the operation of these establishments serves as a part of the endowment for the University.

Following is a list of the industries and the services they render:

Airport (flight training, aircraft and engine service and rebuilding, charter service, housing of locally-owned craft, services and supplies for transient craft)	Printing (commercial—letterpress, offset)
Bookstore and Coffee Shop	Production (machining and fabrication of metal and wood products)
Farms (beef, dairy)	Radio KUOA and KUOA-FM (5,000-watt commercial radio, serving the four-state area)
Power and Light	

ACCREDITATION

John Brown University is accredited by the State Department of Education as a four-year college. Its teacher trainees are eligible for certification, and John Brown University graduates are making splendid records in the leading graduate schools of the nation.

OPPORTUNITIES FOR VETERANS

The University is approved by the Veterans' Administration for the education of veterans, and is glad to assist veterans in the continuation of their education. All inquiries and questions concerning special opportunities should be addressed to the director of admissions.

SUMMER SCHOOL

John Brown University operates a summer school program of one session, eight weeks in length. The climate is mild, and the many recreational opportunities afforded in this area, together with class-work, make possible a very pleasant and profitable summer. Instruction in the summer session is by persons selected from the regular faculty, with occasional visiting professors; courses are offered to meet the special needs of significant groups of students. A maximum of nine semester hours of credit may be earned during a summer

session. Write to the director of admissions for further information. The medical fee, registration fee, and class fees are the same for the summer session as for the fall and spring semesters.

SPECIAL INSTRUCTION

Numerous inquiries are received each year regarding the availability of special instruction in one field only, such as music or one of the vocations, or concerning correspondence and extension courses. John Brown University is glad to make its facilities available to those who desire a very limited amount of instruction in on-campus courses, but wishes to point out that the values of the institution's threefold program are not available to such part-time students. John Brown University does not offer either correspondence or extension courses.

INDIVIDUAL ATTENTION

The privilege of close relationships between student and faculty members is one of the strongest points in the program at John Brown University. In addition to other organized and informal counseling, certain courses provide private conference periods where students are given specific help in overcoming difficulties which may be preventing them from achieving their best progress in their educational programs.





JBU students on weekly visitation to the nursing home for the aged.

STUDENT ACTIVITIES

DAILY SCHEDULE

Breakfast	6:00-7:00 A.M.
Classes for Lower Division Students	7:00 A.M.
Vocational Training for Juniors and Seniors	7:00-10:00 A.M.
Luncheon	11:30 A.M.-12:30 P.M.
Classes for Upper Division Students	1:00 P.M.
Vocational Training for Freshmen and Sophomores	1:00-4:00 P.M.
Dinner	5:30-6:30 P.M.
Quiet Hours	7:30-10:00 P.M.
Dormitory Closing Time	10:00 P.M.
Lights Out	11:00 P.M.

A special schedule is carried out on holidays and Sundays. The above schedule is subject to change at any time by ruling of the administration.

SOCIAL LIFE

Life must be balanced with work and play—the kind of play that helps one to be clean, fine, wholesome, and strong. The University believes that wholesome social activities are as necessary to youth as food and drink, and such activities are promoted on the campus.

Social activities are planned to meet the needs of the entire student body. While the program does not allow time for more than a limited amount of social activities during the week days, definite programs are planned for certain evenings and other selected times. These programs are in the form of class or club parties, concerts, lyceum numbers, hikes, sports, and outings.

The regular calendar of events for the year includes a formal reception by the faculty for the students, an informal reception or entertainment by the Student Council, and special occasions of the year, with groups sponsoring them.

ATHLETICS

The University has a limited program of intercollegiate athletics, in which basketball is receiving the major emphasis at present. This is in addition to a strong and stimulating program of intramural sports which the University has conducted throughout the years, making it possible for every student on the campus to participate. It is the desire of the institution to develop students physically as well as spiritually, mentally, and vocationally. The various classes organize teams for taking part in wholesome athletic contests.

The entire program, supervised by the athletic director, consists of various sports such as baseball, basketball, tennis, track, volley ball, swimming, softball, and hikes. Contests are scheduled weekly with each game carrying a certain number of points. The various winning groups are awarded trophies of honor.

ORGANIZATIONS

John Brown University prohibits any form of sororities or fraternities, but there are a number of organizations on the campus which serve as channels for social activities, and at the same time afford opportunities for organization and leadership.

EXTRACURRICULAR ACTIVITIES

The University classifies as extracurricular activities all the program of sports and similarly organized activities carrying definite benefits to the individual student, though offering no credit. It is desired that each student take part in some of these activities to round out his program of development. The amount in which each student participates is limited, in order that extracurricular activities may not interfere with the regular educational responsibilities.

PUBLIC PERFORMANCE

Public performance of students of John Brown University as representatives of the University, or in cases where such performance might be construed as representing the University, must be with the approval of the appropriate faculty group. (For instance, students wishing to make such public performance in music must secure the permission of the faculty of the Department of Music.)

LEAVES OF ABSENCE

Students are permitted to leave the campus for designated weekends with the permission of the parents and the approval of the dean of students. The weekends designated for leaves are listed in the University Calendar. Leaves will not be granted at other times except in cases of emergency.

STANDARDS OF CONDUCT

A sympathetic program of standards is necessary for the success of any group. John Brown University is primarily a Christian institution and seeks first of all to foster a Christian idealism and spirit on the campus. The administration and faculty have sought to make a careful study of young people and their needs, and the standards of conduct are set up accordingly. By these, it is desired to place before the students the challenge of a clean, wholesome, purposeful life, instead of a number of negative rulings. It is understood that attendance at John Brown University is a privilege and not a right, a privilege which may be forfeited by any student who does not conform to the institution's traditions and accepted standards of conduct, and who is unwilling to adjust himself to its environment.

The dormitories are the homes of the students, and each occupant is asked to respect the buildings as such. The students, under guidance of the resident dormitory heads, care for their own rooms. The rooms must be kept in good condition at all times, and students are encouraged to decorate their rooms in simple artistic ways. Any special rearrangement or alteration in the room must first receive the approval of the respective dormitory head in charge. All dormitory regulations

are designed to contribute to a congenial environment for college campus life.

No student is permitted to solicit the business of students or staff members on the grounds of the John Brown University.

The use of alcoholic beverages in any form is forbidden.

The University is opposed to the use of tobacco, believing that its use is not only injurious to the health but also a potential fire hazard; therefore, students are asked to refrain from smoking. However, a student who may have developed the habit of smoking is given every encouragement in his effort to overcome the habit.

Students who make mistakes are dealt with sympathetically by the personnel officers in charge, with a view to helping them correct errors and better fit themselves into the school's program. Learning to make adjustment to surroundings is a most important factor in any person's training; achievement of that goal is one of the chief objectives of the University. For a more detailed presentation of student life on campus, standards of conduct, and the handling of discipline, attention is called to the *Student Handbook*, a separate publication which is distributed to students.

INDIVIDUAL ATTENTION

Handling each student's problems as those of a valued and respected individual is one of the strongest points in the program at John Brown University. Effective, sympathetic counseling is a normal outgrowth of relationships between students and faculty and staff members, from the time the student enters until the time he completes his work. Such counseling is extremely important to students in dealing with many personal problems, as well as with various problems of adjustment on campus.

COST OF ATTENDANCE

In outlining the approximate scheduled rates below it should be clearly understood that these rates do not necessarily cover the cash cost of a student's attendance in the institution.

FEES

	<i>Room, Board, and Tuition</i>		
	Per 4-Week School Month	Per Semester	Per 8-Week Summer Term
Tuition	\$40.00	\$180.00	\$90.00
Board and Room	60.00	270.00	120.00
Totals	\$100.00	\$450.00	\$210.00

Day students may buy meal tickets at \$14.00 per ticket of 28 meals.

Tuition per semester hour for special students is \$15.00.

REGISTRATION FEES

Registration fees consist of matriculation fee, \$1.50; library fee, \$1.00; and student activity fee, \$10.00; totaling \$12.50. For registration after the designated period, the fee is \$17.50. Change in resistration after one week is \$1.00.

APPLICATION DEPOSIT

Each student in making application is required to submit a deposit of \$25.00 at the time of application. This deposit is applied toward room deposit, fees, and tuition. If the application is rejected his deposit will be promptly refunded. In case of change in applicant's plans to attend, money will be refunded in full if the institution is notified 30 days or more preceding the opening day.

ROOM DEPOSIT

A room deposit of \$10.00 is required of all students residing in the dormitories. For new students making application this deposit is included in the application deposit. The fee is returnable less the amount to cover any damage done to the room during the time the student occupies the room.

MEDICAL FEE

A medical fee of \$10.00 per semester is required of all students who are enrolled in a minimum of twelve semester hours. The medical fee provides for services offered in the University Infirmary located on the Campus. It also includes expenses that occur during confinement to the Siloam Springs Memorial Hospital and any charges made by the physician in attendance while the patient is so confined. Coverage of expenses incurred for any one such confinement is limited to a maximum of 70 days' room charge and \$120.00 for incidental charges made by the hospital. The University will pay the doctor's charges while the patient is confined to the hospital, up to the 70-day maximum period, but the student must pay personally for any office calls made to the physician's office or any other calls made outside the hospital.

The fee for the eight weeks summer term is \$5.00, with minimum required enrollment of six semester hours.

LABORATORY FEES

For certain courses a laboratory fee is charged. The amount of this fee is designated for each course in the description of the particular course.

OUT-OF-STATE FEES

There are no extra charges made to out-of-state students for tuition and fees.

MUSIC FEES

Charges for Applied Music Lessons per Semester

PRIVATE LESSONS

	Two lessons weekly	One lesson weekly	Single lesson
Organ	\$60.00	\$35.00	\$2.50
Stringed Instruments	\$60.00	\$35.00	\$2.50
†Voice	\$50.00-\$60.00	\$30.00-\$35.00	\$2.00-\$2.50
Wind Instruments	\$50.00	\$30.00	\$2.00

Each candidate for a degree in the Department of Music carrying a full course of fifteen hours or more will be entitled to a reduction of fifteen per cent in the total music fees.

CLASS LESSONS

Class lessons in stringed instruments, wind instruments, and voice —\$15.00 for one weekly class hour. This class rate is based on a class not smaller than four and not larger than eight students. Classes smaller than four will be charged proportionately more.

PRACTICE FEES

	One hour daily per semester
Practice room with piano	\$6.00
Practice room without piano	\$3.00
Organ	\$10.00

A limited number of string and wind instruments owned by the university will be available for rental at the rate of \$3.00 per semester.

FLIGHT INSTRUCTION

Students may receive private flight instruction without academic credit at the University airport. Dual instruction is given at the rate of \$9.00 per hour of flying time, and solo flying time at the rate of \$7.00 per hour in 65 hp aircraft. Rates for aircraft of higher horsepower are available upon request.

† The fee charged is based upon the instructor. Also, the lower fee is charged when one class lesson is substituted for one of two lessons per week.

GRADUATION FEE

Each graduating senior is required to pay a month before commencement the graduation fee of \$10.00 which includes rental of the cap and gown for the activities of commencement, and the cost of the diploma and cover.

THREEFOLD ADVOCATE

The payment of the registration fees at the beginning of each regular semester entitles the student to receive the *Threefold Advocate*, the campus newspaper.

THE PIONEER

A charge of \$10.00 is assessed each student at the opening of the fall semester as payment for the student yearbook, *The Pioneer*. This charge is also made at the opening of the spring semester in the case of a student entering John Brown University for the spring semester. The publication is edited by the students and is printed in the school's publishing house. It is one of the most outstanding annuals published in this section. The charge includes photography for each student's individual picture.

DAY STUDENTS

Students living with parents or relatives in Siloam Springs are permitted to enter as day students. Those students are expected to meet all the requirements set up for the boarding student, paying the regular tuition rate of one hundred eighty dollars (\$180.00) per semester. Day students buy meal tickets at \$14.00 per ticket of 28 meals.

ACCOUNTS

Adjustment of Accounts

No refund will be granted on tuition, fees, or charges for yearbook after registration is completed.

To withdraw, a student must submit to the registrar's office an Application for Dismissal form, fully executed.

Time Limit on Accounts

Semester entrance and laboratory fees are payable in advance unless arranged otherwise with the business office. *The agreed monthly payments on room, board, and tuition are payable monthly in advance.* If tuition account becomes 30 days in arrears a notice is given regarding the student's financial standing, and the student is automatically dropped from school unless satisfactory arrangements are made.

ADDITIONAL EXPENSES

In addition to the cost of room, board, tuition and fees, students majoring in any of the engineering departments are required to equip themselves with an approved kit of tools to be used in the shop training portion of the student's program. The list of items making up an approved kit for any department is available from the department head. The cost of the tools is not to exceed \$63.00, to be expended dur-

ing the Freshman and Sophomore years. The Freshman year will normally require an expenditure of \$25.00, the remainder of the tools to be purchased at the beginning of the Sophomore year. Students majoring in any of the vocational departments are required to secure auxiliary equipment such as a slide rule, handbook, etc. The amount and quality of such auxiliary equipment is determined by the training being taken. In the case of students transferring to this campus in advanced standing status, they will be expected to secure tools required of other students in their classification and major on the campus.

VALUABLES

Immediately upon arrival, the student should report to the University Exchange and deposit any money or other valuables which he has brought with him at the time of his enrollment, and he should not leave in his room money or other valuables which he might lose or misplace. The university does not assume any responsibility for valuables or money lost.

STUDENT FINANCIAL AID

Work Opportunities

Contrary to an opinion which is somewhat widespread, John Brown University employs no definite system by which students can "work their way through." This conception has grown out of the fact that each student enrolled typically spends a distinct portion of each day in one of the departments of vocational training, regardless of his financial status. This system, of course, is one of the most vital features of the vocational training and, on the whole, constitutes a great deal of expense to the University, rather than a helpful source of income.

Through scholarship and loan funds, the University desires to help students of the highest type who merit such assistance. Both the scholarship and loan funds are limited, and students should not ask for this assistance unless it is absolutely necessary.

Students desiring to make application for such aid should request application papers and furnish the registrar with any information deemed pertinent in aiding the scholarship and loan committees to render decisions. In making application, the student should stipulate the greatest amount of cash he can have available from other sources.

MEMORIAL SCHOLARSHIPS

Several scholarship funds have been set up as memorials by interested Christian friends desirous of aiding worthy young people to attain success.

Society of U. S. Daughters of 1812 Scholarship Fund.

Ida M. Lane Memorial Scholarship Fund.

Porter Student Aid Fund.

T. I. Alumbaugh Memorial Scholarship Fund.

Birch-Conway Scholarship Fund.

A. H. Gunnett Memorial Scholarship Fund.

H. B. Delaye Memorial Scholarship Fund.

C. H. and Nellie Baker Scholarship Fund.

Murray Sells Scholarship Fund.

United Daughters of the Confederacy Fund.
Mr. and Mrs. Jesse H. Jones Scholarship Fund.
Fred E. Turner Memorial Fund.
May F. Boudinot-Alumni Scholarship.
Mr. and Mrs. William S. Bailey, Jr. Scholarship.
Joe R. Smith Scholarship Fund.
Mary Hayman Reed Scholarship Fund.
Etta Wilson Memorial Scholarship Fund.
Margaret Castelaz Scholarship Fund.
R. W. Moore Scholarship Fund.
Nessa L. Reed Scholarship Fund.

FOUNDER'S SCHOLARSHIPS

Special honorary scholarships, known as Founder's Scholarships, are available as a result of the efforts of the University's Founder and the assistance of friends across the nation. These are awarded to students who have demonstrated unusual merit by having achieved outstanding success in some particular line such as music or scholastic record, or having shown qualifications of leadership mentally, morally, and physically. A student is also sometimes awarded an honorary scholarship when the committee feels he possesses outstanding promise in some particular field of endeavor. Included in the honorary scholarships are those awarded to valedictorians and salutatorians of high schools. By way of example, the valedictory scholarship entitles the student to tuition for the freshman year. Salutatorians are generally granted one-half the tuition for the freshman year. All charges for board, room, fees are to be paid by the student.

GRANTS-IN-AID

A fund has been placed at the disposal of the University to be granted to worthy students—who have limited funds but who possess qualifications above the average in scholarship ability, character, and vocational ability—in return for definite services to be rendered to the institution. A student applying for a grant-in-aid must have a grade point average of 2.0 and must maintain this academic average in order to continue receiving such a grant. Students receiving such grants-in-aid agree to serve the University wherever they may be most needed—and extra time upon necessity.

Applications for such grants-in-aid must be made in advance by writing to the Student Aid Committee. Each grant-in-aid will be for a period of one semester and may be renewed upon written application for an additional semester. A student who fails to maintain a high standard of work and leadership in all phases of the school life will forfeit his grant-in-aid at any time upon notification from the Student Aid Committee.

Grants-in-aid normally are not made to students their first semester of enrollment.

STUDENT LOANS

The most generally used form of student aid employed in John Brown University is that of the student loan. Some scholarships and

memorial loan funds are included in this aid. The general loan fund itself is furnished by gifts and loans from groups and individuals for the purpose of financing deserving students.

The loan is definitely for the purpose of providing students with that portion of their expenses which they are unable to furnish in cash. As security for such assistance, the students are required to sign promissory notes bearing 4 per cent interest. Together with the note the student signs an agreement to pay not less than 10 per cent of his income from all sources after he leaves the school until he has retired the obligation. Each student note must be countersigned by some financially responsible person who may or may not be related to the student. The payment of these loans to the loan fund not only liquidates the student's obligation but places money back in the fund for aiding other worthy students.

A student who leaves the University and enters full-time Christian service on a foreign field, being obligated to the University through a student note, may have the note cancelled by submitting to the business office a letter from an appropriate official of his missionary organization verifying his completion of a full year of successful service on his field as a mission worker. Persons who enter full-time mission work in the United States will be eligible for the cancellation of one-half of their student note obligations under the same conditions.

ADMISSION PROCEDURES

General Admission Requirements

Since John Brown University has a unique program of education, it is desired that only the best type of student, serious about getting an education, shall come to College Hill.

Candidates for admission to John Brown University should write for application papers as early as possible, since the time required for completing an application is considerably longer than in other schools. The following papers constitute an application: the application proper, transcript of the applicant's previous school work, three letters of reference, a photograph, and a medical certificate. Application papers must be accompanied with the deposit of \$25.00 (See: Application Deposit).

Two methods of admission to freshman standing in the University are (a) with a certificate or diploma and (b) by examination.

ADMISSION BY CERTIFICATE

By the first plan, the student must present a transcript showing at least 15 acceptable high school units and graduation from a standard high school. The transcript should be mailed directly from the institution in which credit was earned to the registrar's office, well in advance of the date of registration. The transcript of credits should include the following entrance units:

English	3 units
Mathematics (preferably algebra and plane geometry)	2 units
American History	1 unit

The term, unit, is understood to represent a high school or preparatory course continued through a school year or 36 weeks with five recitations of 45 minutes each week. In all laboratory work, a double period of 90 minutes will be equivalent to a single recitation of 45 minutes.

The student should present enough additional units to bring the total to 15 acceptable units. Groupings should be so arranged as to present 3 units in one other field besides English, and at least 2 units in another field. The specific subjects that are needed vary somewhat with the course of study the applicant plans to pursue. In general arts and sciences the groupings may be in any of the recognized fields. Applicants for engineering, mathematics and science, should present $2\frac{1}{2}$ —3 units in mathematics which should include $1\frac{1}{2}$ —2 units in algebra and 1 unit in geometry, together with 2 units in natural science. *Students unable to present these particular units must expect to spend all or part of one summer making up deficiencies.* Students whose college major does not require mathematics, but who do not present one unit of algebra for entrance will be required to take at least one course in college mathematics, except as waived by examination.

ADMISSION BY EXAMINATION

The examination method of entrance is primarily for those students who desire to enter by individual approval. Students who are over 21 years of age or of sufficient maturity, such as a veteran over 18, may gain admission, without regard to high school credits, by passing a special entrance examination.

Others using this method are those students who do not have sufficient acceptable units to qualify for admission by certificate. A special entrance examination is prepared for this group.

The University is also cooperating with other schools in the matter of admission of veterans of World War II. Certain credit may be given for work done while in the service.

ADMISSION WITH ADVANCED STANDING

Applicants from other universities and colleges may gain admission with advanced standing upon the receipt and approval in the registrar's office of an official transcript and statement of honorable dismissal from the institution they previously attended. Such transcripts should be submitted well in advance of registration, and must be received not later than thirty days after registration.

SPECIAL STUDENTS

Mature persons, 21 or more years of age, will be admitted to the university by an accepted formal application and be permitted to enroll for a maximum of eight semester hours in John Brown University, provided they have on file all the papers required and approved by the registrar's office, not necessarily including evidence of high school graduation, and that they have the permission of their instructors and are qualified for the courses to be taken. Special students will pay for their instruction at the rate of \$15.00 per semester

hour and for other services at the regular rate. Credit earned as a special student will not be counted toward a degree until the student has been admitted to the University as a classified or unclassified student.

Such students, unless married, must reside with parents or relatives and may not live on the campus, but are expected to conform to the ideals of the University in conduct and class attendance.

IN-SERVICE TEACHERS

Individuals who are practicing the teaching profession will be admitted to the University for the summer terms, or for special class sessions scheduled on Saturdays during the full semesters, by acceptable formal application filed with the admissions office and will be permitted to enroll in any elected courses for which they are qualified. Instruction will be charged for at \$7.50 per credit hour, and by special arrangement dormitory and other student services are available at regular rates. Such students will conform to the ideals of the University in the matter of conduct and class attendance.

REGISTRATION PROCEDURES

ORIENTATION WEEK

The first week of each fall semester is devoted to special orientation activities for entering freshmen college students, though all new students on the campus are invited to take part. The activities include placement examinations, lectures on various subjects of importance to the incoming students, private counsel, visitation periods in the various vocational training departments, and special get-acquainted social periods sponsored by staff and students.

PLACEMENT EXAMINATIONS

Placement examinations are given in English to all entering freshmen, and a mathematics test is given all students majoring in departments requiring some work in college mathematics. A number of guidance tests are also given in the course of orientation though they have no bearing on actual admission.

COURSE CREDITS (*Semester Hours*)

A semester credit hour is defined as eighteen class hours of recitation, lecture, or quiz, together with preparation, which is ordinarily two hours for each class hour. Two, or in some cases three, laboratory hours are considered equivalent to one class hour, so that thirty-six or fifty-four laboratory hours are required for one semester hour credit. Class periods are 55 minutes in length. The last digit of the course number indicates the semester hours of credit given for the course.

CLASSIFIED STUDENTS

To be classified in one of the University classes a student must carry a minimum of 12 hours for which University credit is given. He will be classified as a sophomore when he has met all entrance requirements and has satisfactorily completed course work for a

minimum of 26 semester hours of credit. He will be classified as a junior when he has satisfactorily completed a minimum of 56 semester hours.

Membership in the senior class is limited to those students who have met all the requirements for "senior standing," as follows:

1. Whose cumulative grade-point-average (for all college course work) is 2.0 or better.
2. Whose major field grade-point-average is 2.5, or better.
3. Whose minor field grade-point-average is 2.0, or better.
4. Who lacks no more than two semesters of having completed all course work required for the degree he is pursuing.
5. Who lacks no more than 40 credits in vocational training required for the degree he is pursuing.
6. Who has achieved the required English proficiency for graduation.
7. Who has filed with the registrar an acceptable application for senior standing and candidacy for a degree. (This application should be prepared on the appropriate form and filed prior to the opening of the semester when the student expects to classify as a senior.)

All classified and unclassified students, unless married, must reside on the campus or with relatives.

UNCLASSIFIED STUDENTS

Students enrolling in less than 12 semester hours but in more than eight hours for a semester, or for porportional loads for a summer session, will be registered as unclassified students. Students carrying more than 12 hours but not declaring a major also will be considered unclassified. While unclassified students are not members of any of the university classes and are not eligible for graduation honors during the years enrolled as unclassified students, they are expected to conform to all regulations met by classified students, and to pay all regular tuition and fees.

SPECIAL STUDENTS

Students admitted according to the paragraph "Special Students" in the section on admissions may not enroll for more than eight semester hours. Such students are expected to conform to all the ideals and regulations of the University.

MAXIMUM LOAD

The normal maximum semester load of course work is 17 semester hours. However, in enrolling for a new semester, any student who has been enrolled in 12 or more semester hours of work during his semester of residence immediately preceding, and has achieved a grade-point-average of 4.0 or better for that semester, will be permitted to enroll for an increased semester load, as follows:

Previous semester GPA	New semester permissible load
4.0 to 4.49	18 semester hours
4.5 to 4.99	19 semester hours
5.0 or better	20 semester hours

VOCATIONAL TRAINING ASSIGNMENT AND CREDITS (*V-credits*)

In fulfilling the requirements of the work-experience or vocational training program, students are assigned to work responsibilities in various departments throughout the University, and credits are accumulated through the satisfactory completion of specifically-designed units involving the achievement of required skills and other aspects of the work situation. A credit in vocational training (V-credit) is defined as the equivalent of the normal minimum (10 clock-hours) of participation in vocational training activities for one week. Each planned unit is organized so as to enable a student to earn a specified number of V-credits by completing it satisfactorily. (While some vocational training units are such that they can be accomplished apart from strict schedules of hours, it is expected that a substantial portion of each student's total work-experience program will involve the meeting of regular time schedules for work.)

As a part of the registration procedure, in consultation with their advisers, students indicate units in which they plan to receive V-credits, and assignments are made accordingly by the director of vocational training.

EVIDENCE OF ENROLLMENT AND ASSIGNMENT

At the completion of the registration procedure, each student is provided with an official class card, properly filled in and stamped by the registrar's office, for each course in which he is enrolled. A similar card is provided bearing official record of the student's vocational training assignment. These cards are to be preserved by the student, and each must be presented to the respective instructor or vocational supervisor as evidence of proper enrollment or assignment.

LATE ENROLLMENTS

Students enrolling not later than Monday of the fourth week of a regular semester, or Monday of the second week of a summer term will be allowed to register for a full load of studies. Students enrolling later than these respective dates will be required to enroll for a reduced load, as determined by the major adviser and by the dean.

CHANGING REGISTRATION

With the permission of the major adviser, the dean, and the registrar, a student may drop a course from his registration, or add a course, provided this procedure is completed by the close of the fourth week of a regular semester, or by the close of the second week of a summer term. After such a period has elapsed, courses may not be added, and courses dropped will appear on the student's permanent record with the mark "WP" if he was doing passing work at the time of dropping, otherwise with a "WF." An official "Change of Registration" blank may be secured from the registrar's office, and must be returned with all required signatures before a change of registration becomes official. Unauthorized withdrawals will be marked "F" on the student's permanent record. A fee of \$1.00 is charged for each change, after the first week.

MAKE-UP AND CONDITION REMOVAL EXAMINATIONS

A fee of \$3.00 must be paid to the business office and an official receipt presented to an instructor before an examination can be given to remove an incomplete or conditional grade for any grading period unless such fee is waived due to approved reasons.

WITHDRAWAL FROM UNIVERSITY

Every student withdrawing from the University at the end of the semester or previously is required to obtain from the registrar's office an "Application for Honorable Dismissal" form and have it properly signed by the necessary officials and returned to the registrar's office. Failure to execute such an application may result in loss of credit and refusal to grant any possible refunds to the students.

TRANSCRIPTS

An official transcript of credits may be obtained by a student from the registrar's office provided the student has on file a complete "Application for Honorable Dismissal" and has made satisfactory arrangements with the business department in payment of fees and tuition.

The first transcript is issued without cost while each succeeding request must be accompanied by a fee of one dollar (\$1.00).

ATTENDANCE REGULATIONS

ADMISSION TO COURSES

An official class card, properly filled in and stamped by the registrar's office, must be presented to the instructor of each course at the first class session a student attends upon enrolling in a course. Instructors do not permit students to attend class sessions until such official class cards are presented.

CLASS ATTENDANCE

All class or laboratory work assigned to students is to be accomplished whether absences are excused or unexcused. However, if work is being made up because of an unexcused absence, the instructor may, at his discretion, lower the grade because the absence was unnecessary.

An "excused" absence is defined as an absence occurring because of an obligation imposed upon the student. The following circumstances are considered as justifying "excuses":

- a. Death or serious illness in the immediate family.
- b. Illness of the student certified by the University nurse or the dean of students, by whose orders the student is confined to his (or her) room.
- c. Class field trips which are required as class assignments.
- d. Club trips which are designated as educational by the dean of the faculty.
- e. Choir and other trips sanctioned by the University authorities as University business.

f. Trips required by Armed Services or the Veterans Administration.

g. Local emergencies requiring the immediate attention of designated students.

Other absences, incurred by student choice, are considered as unexcused.

Excessive unexcused absences will result in a penalty being recorded on a student's permanent record in the form of an *increase in total hours required for graduation*, as follows:

A *one-hour* increase upon the accumulation of *six unexcused absences*, and an *additional one-hour* increase upon the accumulation of each *three* additional unexcused absences *beyond the first six*.

Each class missed in a period of unexcused absence immediately preceding or immediately following a *vacation* or *leave* period will count as *two* unexcused absences.

An absence will be recorded for a class missed if a student does not attend the *first* class following registration. Such an absence is *unexcused*.

Credit will be withheld for any course in which a student has missed half the classes, whether absences are excused or unexcused.

In case of an absence considered as "excused," an excused-absence slip is to be obtained from the dean of the faculty and is to be presented to each instructor whose class was missed as a notice that the absence was excused. *Excuses must be obtained within one week after return to classes.*

Three reports of *unexcused tardiness* will count as *one unexcused absence*.

PLAN FOR DEVELOPING INDIVIDUAL RESOURCEFULNESS

In the more advanced work of the university, the instructor places responsibility on the student by outlining a unit of work to be accomplished upon the student's own initiative. The class meets for lectures and discussions as deemed advisable, and the intervals are devoted to supervised work and study. This plan has shown itself to be more desirable than the usual plan in which the student depends too much upon the instructor and the class work. By this plan the student has the satisfaction of advancing as rapidly as he may choose while he always has careful supervision of his work; an excellent opportunity is thus afforded for independent, individual development.

PARTICIPATION IN VOCATIONAL TRAINING

Participation in vocational training is a regular part of the educational program required of all regularly enrolled students. Inasmuch as both the evaluations of performance and the descriptions of areas of experience in which a student participates are made a part of his permanent record, it is extremely important that the student fulfill his responsibilities in the program faithfully and effectively. It is obvious that a low grade will be the equivalent of a poor recom-

mentation, and that a failing grade will mean that no credit is earned in the particular unit involved. In some cases, this may mean the withholding of graduation until the failed vocational work has been made up.

CHAPEL ATTENDANCE

Attendance is required of all students at the regular week day chapel services (Wednesday, 11 a.m. on current schedule). Absences from chapel will be made a matter of discipline.

Boarding students are required to attend all church services on Sunday as well as week day chapel services.

GRADING SYSTEMS

GRADES IN CLASS WORK

Indication of each student's progress is reported regularly by instructors and department heads. Grades are also given at the close of each session covering the entire work for that period. Reports are sent to parents at mid-semester and at the end of the semester.

A—Excellent accomplishment.

B—Superior accomplishment.

C—Average accomplishment.

CR—Credit (as for advanced standing examination).

D—Inferior accomplishment, but passing.

E—Conditional failure.

F—Complete failure.

WP—Withdrawn, passing.

WF—Withdrawn, failing.

I—Incomplete work.

S—Satisfactory, in no-credit course.

U—Unsatisfactory, in no-credit course.

An incomplete grade must be made up within one month after the official grade reporting date, except that an extension may be granted by the instructor and the dean of the faculty.

When a conditional failure is made up, in no case will a final grade higher than D be assigned without repetition of the course.

When an F grade has been received, credit cannot be secured for work without repetition of the entire course.

Standard grade points are given the student in accordance with this accomplishment:

For grade A, six grade points per semester hour.

For grade B, four grade points per semester hour.

For grade C, two grade points per semester hour.

For grade CR, two grade points per semester hour.

For grade D, no grade points.

For grade E, one negative grade point per semester hour.

For grade F or WF, two negative grade points per semester hour.

For grade WP, no grade points.

VOCATIONAL TRAINING GRADE

The maintenance of proper standards of accomplishment and performance is required in vocational training, just as it is in course work, and grades are reported for the same periods covered by the course work grades, according to the following system:

- A—Excellent performance
- B—Better than average performance
- C—Satisfactory or average performance
- D—Poorer than average performance
- F—Unacceptable performance
- I—Incomplete accomplishment

COMMENCEMENT AWARDS

DEGREE HONORS

Each graduate who measures up in every respect to the ideals of John Brown University, who has attained high achievement in the threefold program, and who has attained a cumulative grade-point average of 4.5 or above, for all college work completed by the end of the senior year, is recognized with an appropriate degree honor, indicated by a designation on the commencement program, by an imprint on the diploma, and by the wearing of an appropriate emblem on the gown during the commencement exercises.

The honors indicating the respective levels of attainment are as follows:

Grade-point-average of 4.5 to 4.99—Cum Laude

Grade-point-average of 5.0 to 5.49—Magna Cum Laude

Grade-point-average of 5.5 to 6.0—Summa Cum Laude

JOHN BROWN UNIVERSITY DISTINGUISHED SERVICE AWARD

Each year, the administration of John Brown University considers the records of the members of the graduating class with a view to recognizing the senior who has been most outstanding in his contribution to the University in carrying forward the total institutional program during his senior year. Matters for consideration in this selection are: service over and above the call of duty in all areas of the University's threefold program; Christian character and leadership; and loyalty to the idealism of the school. The student selected will receive at the annual awards convocation a suitably engraved plaque.

SENIOR SCHOLASTIC HONORS

At the annual awards convocation, an engraved plaque is awarded to the graduate ranking highest among those majoring in each of the five divisions. In addition to the scholastic rating, the student's Christian character and vocational attainment are also taken into consideration. A grade-point average of at least 4.5 is required.

JUNIOR SCHOLASTIC HONORS

From each of the five divisions, one junior selected on the basis of scholarship, Christian character, and vocational achievement, and majoring in that division, receives recognition at the annual awards

convocation, and is presented with a scholarship for the senior year amounting to tuition. A grade-point average at least 4.5 is required. There are thus five scholarships awarded to juniors.

FRESHMAN AND SOPHOMORE SCHOLASTIC AWARD

One man student and one woman student from the Freshman class and one man student and one woman student from the Sophomore class are selected on the basis of rank in scholarship, Christian character, and vocational achievement to receive recognition at the annual awards convocation and be honored with the awarding of a scholarship amounting to fees, such as laboratory, medical, and matriculation, for the two following sessions. A grade-point average of at least 4.5 is required. There are thus two scholarships granted in the Freshman class and two in the Sophomore class.

VOCATIONAL ACHIEVEMENT AWARDS

Achievement awards in the form of certificates are given at the annual awards convocation in a number of fields of vocational endeavor. These awards are open to the entire student body, and scholastic rating has no bearing. Each student chosen is selected on the basis of industry, reliability, Christian character, and general promise in the vocational field in which he is training.

GENERAL REQUIREMENTS FOR BACHELOR'S DEGREE

John Brown University offers four-year courses leading to the following degrees: Bachelor of Science (B.S.), Bachelor of Arts (B.A.), Bachelor of Music (B. M.), Bachelor of Science in Elementary Education (B.S.E.E.), Bachelor of Science in Secondary Education (B.S.S.E.), and Bachelor of Music Education (B.Mus.Ed.). Specific requirements for these degrees are found throughout the catalog in the sections dealing respectively with each department offering a major.

PARTICIPATION IN COMMENCEMENT

Each student qualified to receive a degree from John Brown University is expected to be present at the time the degree is conferred. In case this requirement works extreme hardship on the candidate, a petition to the Educational Policies Committee may be made to waive the requirement.

RESIDENCE

The residence requirement for a degree from John Brown University is a minimum of one academic year of two semesters, or equivalent, during which a minimum of 30 semester hours of credit must be earned in residence courses taken on the University campus. Of the final 36 semester hours to be presented in meeting requirements for graduation—with prior approval by the dean of the faculty—a maximum of 6 semester hours may be by transfer. The residence work must include at least two courses of junior-senior standing (4 to 6 semester hours of credit) in the student's major field.

SECOND BACHELOR'S DEGREE

When a second degree is granted by John Brown University, an additional period of residence equivalent to that required for the first degree must be completed. During this additional period of residence, a minimum of thirty semester hours must be completed together with all other requirements for the second degree, including at least two courses of junior-senior standing taken in residence at John Brown University in the field of the major for the second degree.

APPLICATION FOR SENIOR STANDING AND STATEMENT OF CANDIDACY FOR DEGREE

Before classification as a senior, every student must fulfill certain specified requirements (see pages 36-40). An application blank listing the required information and approvals is available at the registrar's office and must be filed with the registrar before senior classification and candidacy for a degree is established. This application should be filed before the opening of the term when the student expects to classify as a senior.

JUNIOR-SENIOR COURSES

Each candidate for graduation must present a minimum of forty semester hours in courses of junior-senior standing, taken after the student is classified as a junior. Students electing elementary courses in the departments where they have completed advanced courses may lose credit for the elementary courses.

HOME ECONOMICS REQUIREMENT

Each woman candidate for a degree must present a year's work (four to six semester hours) in home economics. These hours may be counted toward the vocational subject requirement listed under Subject-Matter Group Requirements.

ACCEPTABLE CORRESPONDENCE WORK

A maximum of thirty semester hours of correspondence and extension work taken from a recognized school may be accepted toward a degree, provided such work has been validated by the successful completion of the equivalent of a full semester's work in residence in an approved college or other institution of higher education.

MAXIMUM CREDIT IN CERTAIN FIELDS

The maximum total credit allowed for ensemble, band, mixed chorus, Cathedral Choir, and orchestra toward the requirements of any degree is four hours.

GRADE-POINT AVERAGE

The grade-point average in all work presented for a degree must be at least 2.0, in the minor subject at least 2.0, and in the major subject at least 2.5.

SUBJECT-MATTER GROUP REQUIREMENTS

(All requirements are in semester hours)

Bible and Religion: Two hours each semester in residence	16
English: Communications and six elective hours from the departments of English and speech.	12
Art and/or Music: Four hours (omitted from some Bachelor of Science requirements)	4
Natural Science: Twelve hours laboratory science; or six hours of laboratory science and six additional hours of science and/or mathematics (Science requirements for the Bachelor of Science degree vary; refer to the requirements as listed for the departments.)	12
Social Studies: (These courses are to be chosen to supplement and enrich the high school background and to contribute to general education. Six hours of history are recommended, and general psychology is suggested in addition to elective courses in the departments of economics, geography, history, political science, and sociology. Six hours, or the equivalent, of United States history must be included if a unit of American History was not presented for admission.)	12
Foreign Language: Two years in one modern foreign language (One or two years of modern foreign language taken in high school may exempt a student from some work in the same language in college. Greek fulfills the language requirement for the major in Bible and Religion. Requirements for the Bachelor of Science in certain fields omit the language requirement. Also, exceptions are to be noted in the Bachelor of Music curricula for voice majors.)	12
Vocational Subjects: (A sequence of courses* recommended by the major adviser and approved by the Educational Policies Committee—required of all students as supplemental to the vocational training or work-experience program, and usually taken in the freshman and sophomore years to provide basic occupational competence and skills related to the vocational goal of the student. This requirement may be modified in cases of students transferring to John Brown University with advanced standing)	usually 8-12
Major Subject: A minimum of twelve hours in courses of junior-senior standing, and a total of thirty hours (Candidates for the Bachelor of Science in Elementary Education or in Secondary Education are required a total of twenty-four hours. A minimum of two courses of junior-senior standing in the major subject must be completed in residence at John Brown University. See grade-point requirement.)	24-30

* See "Approved Vocational Course Sequences," page 39.

Minor Subject: A minimum of six hours in courses of junior-senior standing, and a total of eighteen hours (The minor subject field is chosen with the counsel of the major advisor and must be clearly related to the objects of the major field. Some exceptions are to be noted. *See grade-point requirement.*) 18

Electives: Candidates for the Bachelor of Arts must present electives sufficient to bring the total number of hours to one hundred twenty-four, and for the Bachelor of Science, electives to bring the total number of hours to one hundred thirty. Exceptions are to be noted in certain departments.

APPROVED VOCATIONAL COURSE SEQUENCES

Groups of courses related to various vocational goals have been recognized as approved vocational course sequences. Each student is required to enroll for the courses comprising one of these sequences as a supplement to his vocational training or work-experience program.

The vocational subject requirement may be met by: (1) a major or minor in business, building construction and design, electrical engineering, home economics, mechanical engineering, music, or radio production; or (2) a minor in agriculture, art, or general engineering; or (3) one of the approved sequences listed below; or (4) a specially-designed sequence recommended by the major adviser and approved by the Educational Policies Committee.

In case a major or a minor is elected as the vocational course sequence, this is designated by means of the appropriate departmental symbol not followed by a number. Each of the approved sequences listed below is identified by a code designation consisting of the appropriate departmental symbol, followed by an appropriate numeral. In each case in the following list, an indication of the general occupational area for which the sequence is designed is shown—in addition to the code designation and the specific courses which constitute the sequence.

Agri-1 General farming or agriculture-related occupations—9 semester hours elected from Agri 123, 143, 153, 213, 223, 353, 393, 463.

Agri-2 Dairying—Agri 213, 223, 393, and 463.

Art-1 Commercial art—9 hours elected from Art 113, 213, 222, 223, no more than 4 hours of applied art.

Art-2 Commercial art—Art 223; Bus 113, 123, and 423.

Art-3 Chalk drawing; Gospel art—Art 113, 213, 322, and 3 hours applied art.

Bus-1 Office work (general)—Bus 113, 123, and 223.

Bus-2 Office work (general)—Bus 113, 123, 143, and 153.

Bus-3 Office work (bookkeeping or statistical)—Bus 113, 123, 173, and 183.

Bus-4 Sales (retail or general)—Bus 113, 133, and 323.

GE-1 Engineering drawing—GE 112; ME 132; BC 122 or Art 113.

GE-2 Architectural drawing—GE 112; Art 113; BC 122 and 213.

GE-3 Shop work (general)—GE 111, 121; 4 hours elected from ME 242, 252, 272.

- GE-4 Rural missionary, etc.—GE 111 and/or 121; BC 223 and 233.
- HEC-1 General homemaking—Any appropriate and related sequence totaling 12 hours of HEC courses, including 433.
- HEC-2 Clothing construction and design—HEC 113, 123, 253; and Art 213.
- HEC-3 Rural or foreign missionary service—HEC 103, 113, 133, and 393.
- HEC-4 Rural or foreign missionary service—HEC 103, 133, and 143.
- Mus-1 Church music (general)—Mus 152, or P111a,b, 252, and 4 additional hours in applied music with no less than 2 hours in voice.
- Mus-2 Church music (choral)—Mus 165a,b; V111a, 412.
- Mus-3 Public school music—Mus 165a, 272 or 372, and 2 hours in voice, with ability to sight-read and play on the piano 4-part material with ease.
- RP-1 Radio (missionary) speaking etc.—Spch 223 or 233; RP 243 and 253.
- Sci-1 Research technical work—6 hours laboratory science; GE 111, 112, and 122.
- Sci-2 Science instrumentation—6 hours laboratory science; GE 111; EE 216 or 212 and 222.

VOCATIONAL TRAINING REQUIREMENTS

The experiences involved in the vocational training program are organized in terms of "units," completion of each of which entitles the student to an established number of vocational training credits ("V-credits"). The general minimum total number of V-credits required for graduation is 120—applicable to students who are regularly enrolled at John Brown University throughout their four years of college. (Certain curricula may require somewhat higher quantities of these V-credits.) The minimum of 120 credits represents the equivalent of 1200 work hours distributed throughout the four years, and also implies the accomplishment of specific levels of proficiency and a variety of experiences which equip the students for their respective fields of vocational endeavor upon graduation.

Specific groups of vocational training unit requirements are outlined in connection with the respective curricula for the various degrees, and students are required to enroll for these units in logical progression from the elementary to the advanced, under guidance by the advisers in their major and minor fields of study.

SPECIFIC REQUIREMENTS

As suggested in the foregoing, requirements in some departments vary slightly from the general pattern outlined. For specific information, refer to the requirements as listed in the section dealing with each respective department offering a major.

COURSE DESIGNATIONS

Course offerings are numbered with three digits indicating in order from left to right: college year, course order, and semester hours credit.

101 to 199: Courses primarily for Freshmen, but open to Sophomores.

201 to 299: Courses open to Sophomores.

301 to 399: Courses primarily for Juniors, but open to Seniors.

401 to 499: Courses open to Seniors.

An "a" after the course number indicates first half of a continuation course, and "b" indicates second half. Both the "a" and "b" parts of a course must be completed before credit is allowed.

Prerequisites: Students are not permitted to enroll for courses for which they have not completed all prerequisites, and they should not ask for special permission to do so.

Availability of courses. The indication of specific semesters or summer sessions during which courses are to be offered is tentative, and is subject to modification as may be necessary. Accordingly, the University reserves the right to withdraw from the schedule any course for which there is insufficient enrollment.

VOCATIONAL TRAINING UNIT DESIGNATIONS

Vocational training units are designated both by number and by title.

Each number consists of a "basic number" (10 to 49), the letter "V" (to distinguish from course numbers), and a "credit number" (2 to 16). The basic number—10-19, 20-29, 30-39, or 40-49—indicates freshman, sophomore, junior, or senior, as the student level for which the unit is offered. The credit number indicates the number of V-credits for which students enroll (or may enroll) in the unit during a semester.

Each unit title corresponds generally to an occupational title—such as those listed and defined in the *Dictionary of Occupational Titles*, compiled and published by the United States Employment Service. Descriptions of units correspond generally to the definitions contained in the *DOT*, outlining particularly the kinds of experiences in which students participate while in training. Additional units are to be added from time to time, as may be desirable and feasible through the development of circumstances and facilities.

Flexibility of level and of credit. In certain instances, individual unit designations involve two or more basic numbers. In such an instance, a student is permitted to enroll for a level of experience indicated by one of the respective basic numbers—provided any lower level, or its equivalent, has been achieved before enrollment in the next higher level. In certain instances, individual unit designations involve two or more credit numbers. In such an instance, a student is permitted to elect to earn a selected amount of credit by enrolling—as advised—for greater or lesser participation in the experiences outlined for the unit. Certain units—upon advisement—may be repeated for additional credit during successive semesters, and superior performance is required in such instances.

Availability of vocational training units. While, in general it is considered that all units listed may be available during each semester (unless specifically listed otherwise), the University reserves the right to withdraw any unit at any time—provided an appropriate substitution is permitted.

DIVISION OF ARTS AND LITERATURE

*Kennedy (chairman), Lancaster, Moore, Mason, Oiesen,
Panage, R. Smith, Whitmore, R. Wills, Zimmerman*

This division is comprised of the following departments:

Art, providing a minor in the field, as well as general education courses of cultural value.

English, offering a major together with general education courses in communications and literature.

Modern Foreign Languages, with basic courses in French, German, and Spanish.

Music, providing certain major curricula for those desiring careers in the field, as well as theoretical and practical work for students recognizing the cultural value of music.

Radio Production, offering a major for those interested in careers in the field.

Speech, providing basic courses for communications.

Department of Art (Symbol: Art)

Art contributes to the development of good taste and wholesome emotional response to the beauty of everyday life, and to the appreciation of architecture, sculpture, and the paintings of the masters. Thus, the courses in art are designed to enrich and vitalize students' general education programs.

A minor in art is offered for those interested in this field of study (a) for its cultural value or (b) to make use of its special techniques to enhance their training in such fields as business and advertising, Christian education, public school teaching, and telecast production.

Requirements for Minor in Art

A minimum of 18 semester hours in art courses is required for a minor in art. Courses included in the minor are subject to approval by the head of the department. Art 232, 242, 342, and 352 are recommended. The student pursuing a minor in art will elect vocational training units in art for a minimum of 30 V-credits; the total number of credits in such units permissible to be applied in meeting degree requirements is subject to approval by the adviser in the major field, according to the vocational objective of the student.

Descriptions of Courses

113 General Art I

Three hours

This course treats the principles and practice of freehand drawing, charcoal technique in drawing from still-life, and elementary composition and sketching. One hour lecture-discussion and two two-hour laboratory periods per week.

Fee: \$2.00

Miss Mason

Offered fall and spring semesters.

123 General Art II

Three hours

A continuation of Art 113. A study of value and intensity relationship in water color technique from still-life studies. Continued practice in sketching and study of composition. One hour lecture-discussion and two two-hour laboratory periods per week. Prerequisite: 113. Fee: \$2.00.

Miss Mason

Offered spring semester.

213 Design and Color

Three hours

This is the study of structural and decorative design; also the study of principles pertaining to the relationship and use of color. One hour lecture-discussion and two two-hour laboratory periods per week. Prerequisite: 113, or consent of instructor. Fee: \$2.00

Miss Mason

Offered fall semester.

222 Public School Art

Two hours

The theory of teaching art in public schools. Standards of attainment of art for each grade and a program to follow in teaching special crafts and demonstration lessons. Two two-hour periods each of practical work and theory per week. Fee: \$2.00.

Miss Mason

Offered spring semester.

223 Commercial Design

Three hours

This is the study of lettering and principles of design as applied to advertising and merchandising. Principles affecting layouts, methods, and media in graphic arts. Recommended to students majoring in business. One hour lecture-discussion and two two-hour laboratory periods per week. Prerequisite: 213, or consent of instructor. Fee: \$2.00.

Miss Mason

Offered spring semester (even-numbered years.)

232, 242 Visual Arts and Music

Each course, two hours

An introduction to the visual arts and music, with special attention to understandings and appreciations, forms, styles, and media. Designed especially to meet general education needs in the fine arts. No technical knowledge required. One hour lecture-discussion and two hours laboratory per week.

Miss Oiesen

232 offered fall semester; 242 offered spring semester.

281, 2, or 3; 291, 2, or 3 Applied Art

Each course, one to three hours

Drawing and painting techniques, outdoor sketching, landscape painting, figure drawing, still-life, and water color painting. The sequence of studies is adapted to the capabilities and vocational objectives of the individual. Individual instruction is provided according to the needs of the student and the credit to be earned. Two hours laboratory per week for each semester hour of credit. Prerequisite: Consent of the instructor. Fee: \$15.00 per hour of credit.

Miss Mason

281, 2, 3 offered fall semester; 291, 2, 3 offered spring semester.

322 Problems in Chalk Illustration

Two hours

Cartoon illustration and lighting effects. Designed especially for

Christian workers who wish to illustrate a message. Two two-hour periods each of theory and practice per week. Fee: \$2.00. Miss Mason
Offered fall semester (odd-numbered years).

342, 352 History of Art *Each course, two hours*

A study of ancient to medieval periods in art, and renaissance to modern. Fee: \$1.50, each course. Miss Mason

342 offered fall 1958 and alternate years; 352 offered spring 1959 and alternate years.

381, 2, or 3; 391, 2, or 3 Applied Art *Each course, one to three hours*

For course description, see 281, etc. Miss Mason

381, 2, 3 offered fall semester; 391, 2, 3 offered spring semester.

Descriptions of Vocational Training Units

11V4, 8, 12, 16 Commercial Art Apprentice

Four, eight, twelve, or sixteen credits

Does poster work, lettering, and coloring; assists in preparing layouts.

15V4, 8, 16 Graphic Arts Assistant *Four, eight, or sixteen credits*

Performs a variety of duties at the University Press—including general maintenance; simple design, composition, and presswork; and bindery work. May be repeated to a maximum of 40 credits.

22V4, 8 Cartoonist-Illustrator *Four or eight credits*

Creates cartoons and illustrations for University campus publications.

23V4, 8, 12, 16 Art Laboratory Assistant

Four, eight, twelve, or sixteen credits

Prepares materials for class exercises and laboratory work.

24V4, 8 Stage-scenery Designer Apprentice *Four or eight credits*

Assists in designing, building, and painting scenery for stage presentations.

25V4 Newspaper Production Manager *Four credits*

Supervises actual production of *Threefold Advocate*.

30V8, 16 Yearbook Art Editor *Eight or sixteen credits*

Creates original art and plans overall sequence of design units for the *Pioneer*.

31V8, 16 Commercial Artist *Eight or Sixteen credits*

Creates posters, does lettering and coloring, and prepares advertising layouts.

Department of English (Symbol Engl)

Communication by spoken and written words is basic to the culture of the English-speaking world and is particularly important to those

who would advance and serve best in the various other areas of specialization. Accordingly, the offerings of this department contribute not only to the general education and necessary communication skills of all persons pursuing any of the University's many courses of study but also to vocational competence in occupations related to communicative arts. Vocational training opportunities are particularly rich in connection with the various University publications and the operation of the University's radio stations, KUOA and KUOA-FM.

The Department of English offers a basic liberal arts curriculum adaptable to a variety of objectives, as well as courses designed to develop basic skills and the general education values needed by every college student.

Requirements for the Bachelor of Arts (B.A.) degree with major in English

<i>Courses</i>	<i>Semester hours</i>
Art and/or music	4
Bible and religious education	16
Modern foreign language—two years of one language, or equivalent	12
Natural Science—12 hours laboratory science, or 6 hours labora- tory science and 6 additional hours of science and/or mathematics	12
Social Studies—including Psychology 113; 6 hours history; additional courses from economics, geography, political science, sociology	15
Vocational subjects—selected from designated vocational course sequences*, with approval of major adviser usually	8-12
English—including 113a,b, 213a,b, 413, 423, and Speech 223 and 233	30
Electives—including minor of 18 hours, of which 6 hours are of junior-senior standing	23-27
Total	124

Vocational Training Units

For freshmen and sophomores—a minimum of 60 (typically 64) credits, including at least 12 credits from each of four of the five following groups:

- Engl 22V, Educ 10V
- Engl 15V, 16V, 17V, 18V, 21V, Bus 14V, 24V
- RP 10V, 11V, 20V, 22V
- Engl 20V, 23V
- Minor and/or electives

For juniors and seniors—a minimum of 60 (typically 64) credits, including at least 12 credits from each of four of the five following groups:

* See "Approved Vocational Course Sequences," page 39.

Engl 23V, 30V, Bus 32V, Art 30V
 Educ 10V, 35V
 RP 20V, 22V, 31V, 45V
 Engl 16V, 17V, 18V, 21V, Bus 24V
 Minor and/or electives

Requirements for minor in English

Courses

To fulfill the requirements for a minor in English, a total of 18 semester hours of course work in English (excluding 103 and 203, but including 6 semester hours of courses of junior-senior standing) must be completed, in addition to 113a,b.

Vocational Training Units	V-Credits
Two or more (including at least one <i>Engl</i>) of those specified for freshman and sophomore English majors	16
Two or more (including at least one <i>Engl</i>) of those specified for junior and senior English majors	16
Total	32

Requirements for Public School Teaching in English

See Department of Education for curriculum details.

Descriptions of Courses

103 Developmental Reading and Writing Three hours

In this course, use is made of accelerators and reading films to improve the student's rate of reading and his comprehension. Vocabulary drills in the *Reader's Digest* and other assigned readings are used to improve the student's knowledge and use of good English. This course is required of all students whose score on the Davis Reading Test is below the level of achievement required for exemption, but it does not count toward fulfilling the graduation requirement in English. Three hours lecture-discussion and two half-hour laboratory periods per week. Fee: \$1.00.

Offered fall semester.

Mrs. Wills

113a,b Communications

Each course, three hours

The aim of these courses is to develop skill in writing and in speaking, as well as in reading and listening. A unit on library usage is included. At the close of the second semester of the course a long research paper, coordinating the student's vocational or major interest, is required. The *Reader's Digest* and other periodicals are used as supplementary reading materials, with opportunity given for written and oral themes. Fee: \$1.50, each course.

Mrs. Wills

113a offered each semester and summer session; 113b offered spring semester.

203 *Essentials of English*

Three hours

This course is designed to help students to attain mastery of grammar, vocabulary, speed and comprehension in reading. It is intended for those who desire to acquire, in the use of English, habits which are appropriate for the college-trained person. Mr. Panage

Offered fall semester.

213, 223 *English Literature*

Each course, three hours

The first part of this course is devoted to a study of English writers from the Anglo-Saxon Period to the Restoration, and the second part deals with English writers from 1700 to 1900. Prerequisite: 113a,b, or equivalent. Mr. Panage

213 offered fall semester; 223 offered spring semester.

233 *Juvenile Literature*

Three hours

Literature suitable to children in the first eight grades of school is studied. Authors and their works are carefully evaluated. Prerequisite: 113 a,b, or equivalent. Mr. Panage

Offered spring (odd-numbered years).

323 *Victorian Poetry and Prose*

Three hours

A study of the major poets and prose writers of the age, with emphasis upon philosophical and esthetic ideas. Prerequisite: 113a,b, or equivalent. Mr. Panage

Offered spring (odd-numbered years).

333 *Contemporary Literature*

Three hours

From 1900 to our own day. Special attention is given the English, American, and Continental novel and drama. Prerequisite: 113a,b, or equivalent. Mr. Panage

343 *Shakespearian Drama*

Three hours

A study of representative experimental plays, romantic comedies, tragedies, and dramatic romances. Prerequisite: 113a,b, or equivalent. Mr. Panage

Offered fall (even-numbered years).

373 *Composition*

Three hours

A course emphasizing short story writing techniques, and providing drill in the mechanics of writing and practice in different types of writing as needed by the student. Prerequisite: 113a,b, or equivalent. Mr. Panage

Offered spring (even-numbered years).

383 *Word Mechanics and Phonetics*

Three hours

A study of the history of the English language with emphasis on etymology and semantics, with a view to increasing the student's vocabulary. Prerequisite: 113a,b, or equivalent. Mr. Panage

Offered spring semester.

393 *Advanced English Grammar*

Three hours

A study of the principles of English grammar, carrying the stu-

dent into careful analyses of sentence structure and practices now current in written and spoken American English. Prerequisite: 113a,b, or equivalent. Mr. Panage

Offered fall semester.

413, 423 American Literature

Each course, three hours

The first part of this course is devoted to a study of major American writers from colonial times to 1866. The second part treats the major American writers from 1866 to 1900. Prerequisite: 113a,b, or equivalent.

413 offered fall (odd-numbered years); 423 offered spring (even-numbered years).

433, 443 World Classics

Each course, three hours

The first part of this course is devoted to literary masterpieces of early times in translation, particularly Greek and Latin. The second part treats the literary masterpieces of modern European nations in translation. Prerequisite: 113a,b, or equivalent. Mr. Panage

433 offered fall (even-numbered years); 443 offered spring (odd-numbered years.)

473 Spenser and Milton

Three hours

A study of Spenser's "Fairy Queen" and Milton's major works, "Paradise Lost," "Paradise Regained," and "Samson Agonistes." Prerequisite: 113a,b, or equivalent. Mr. Panage

Offered spring (even-numbered years).

Descriptions of Vocational Training Units

15V8 Newspaper Copy Editor

Eight credits

Reads and makes necessary corrections in written copy prepared for *Threefold Advocate*. May read proofs.

16V16 Newspaper News Editor

Sixteen credits

Makes reporter assignments, selects and edits news articles, and writes items for *Threefold Advocate*.

17V16 Newspaper Sports Editor

Sixteen credits

Gathers and writes University sports news for *Threefold Advocate*.

18V8 Newspaper Reporter and/or Feature Writer

Eight credits

Gathers and writes school news of general nature, including special features and regular columns for *Threefold Advocate*.

20V8 Yearbook Assistant Editor

Eight credits

Coordinates sectional layouts and assists in carrying out functions of editor.

21, 31V16 Newspaper Editor

Sixteen credits

Plans layout of *Threefold Advocate*, writes editorials, supervises, and edits work of staff. (An elective position.)





22V4 Reading Assistant

Four credits

Operates reading accelerators and help students to measure their current rates of reading against anticipated rate gains. Assists students in building, and in measuring their vocabularies. Operates audio-visual projector and other devices to help increase students' reading rates. Prerequisite: Engl 103, or equivalent.

23V8, 16 Yearbook Sports Editor

Eight or sixteen credits

Gathers and prepares University sports material for *Pioneer*.

24, 34V4, 8, 12, 16 Proofreader

Four, eight, twelve or sixteen credits

Reads galley proofs and marks typographical errors for correction.

30V16 Yearbook Editor

Sixteen credits

Plans general layout, assigns tasks to assistants, and supervises entire editorial process for *Pioneer*. (An elective position.)

35V4, 8, 12, 16 Grammarian

Four, eight, twelve, or sixteen credits

Assists instructor by indicating errors in English in student laboratory reports, themes, etc.

Department of Modern Foreign Languages (Symbol: Lang)

As nations grow closer together, a knowledge of foreign languages becomes more and more significant to the average citizen. At present, the department is equipped to offer basic courses in French, German, and Spanish, providing a sound grounding in the basic patterns of each as a language. Through a well-chosen selection of literary, technical, and scientific readings, the student is given linguistic background necessary for effective use of the language in his chosen vocation.

Descriptions of Courses

113a,b Elementary French

Each course, three hours

A basic course, giving the student an overview of the problems involved in studying a foreign language. Drill in pronunciation and conversation. Reading and writing of easy material. Study of grammar. Supplementary reading in French to develop vocabulary and promote facility in reading.

Students who have been certified in one year of high school French receive credit only for the work of the second semester. Mr. Moore

113a offered fall semester (odd-numbered years); 113b offered spring semester (even-numbered years).

133a,b Elementary German

Each course, three hours

A basic course, giving the student an overview of the problems involved in studying a foreign language. Drill in pronunciation and conversation. Reading and writing of easy material. Study of grammar. Supplementary reading in German to develop vocabulary and promote facility in reading.

Students who have been certified for one year of high school German will receive credit only for the work of the second semester.

Mr. Moore

133a offered fall semester; 133b offered spring semester.

153a,b Elementary Spanish

Each course, three hours

A basic course, giving the student an overview of the problems involved in studying a foreign language. Drill in pronunciation and conversation. Reading and writing of easy material. Study of grammar. Supplementary reading in Spanish to develop vocabulary and promote facility in reading.

Students who have been certified for one year of high school Spanish will receive credit only for the work of the second semester.

Mr. Moore

153a offered fall semester; 153b offered spring semester.

213a,b Intermediate French

Each course, three hours

An intensive course, continuing the work of the first year. Conversation, translation, composition, intensive and extensive readings. In the second semester reading topics may be individually selected. Prerequisite: 113a,b or two years of high school French, or equivalent.

Mr. Moore

113a offered fall semester (even-numbered years); 113b offered spring semester (odd-numbered years).

233a,b Intermediate German

Each course, three hours

An intensive course, continuing the work of the first year. Conversation, translation, composition, intensive and extensive readings from literary and scientific works. In the second semester reading topics may be individually selected. Prerequisite: 133a,b or two years of high school German, or equivalent.

Mr. Moore

233a offered fall semester; 233b offered spring semester.

253a,b Intermediate Spanish

Each course, three hours

An intensive course, continuing the work of the first year. Conversation, translation, composition, intensive and extensive readings from literary and technical works. In the second semester reading topics may be individually selected. Prerequisite: 153a,b or two years of high school Spanish, or equivalent.

Mr. Moore

253a offered fall semester; 253b offered spring semester.

Descriptions of Vocational Training Units

20V4 German Conversation Laboratory

Four credits

Obtains special practice in speaking and understanding the foreign language, using records and tape recorder where appropriate. Prerequisite: One year's instruction in the language or approval by instructor. May be repeated to a maximum of eight credits

21V4 Spanish Conversation Laboratory

Four credits

Obtains special practice in speaking and understanding the foreign

language, using records and tape recorder where appropriate. Prerequisite: One year's instruction in the language or approval by instructor. May be repeated to a maximum of eight credits.

Department of Music (Symbol: Mus)

The purpose of the department is to provide students with a thorough music education, both theoretical and practical. For those wishing to follow careers in music, courses are offered leading to the degrees Bachelor of Arts, Bachelor of Music, and (through the Department of Education) Bachelor of Music Education. These courses provide a well-rounded education for those wishing to enter the music profession as artists, teachers, supervisors, ministers of music, radio performers and composers, and as musicians in other fields. Furthermore, the fact that the program in music is closely allied with the work in the Bible, liberal arts, and technological departments provides students majoring outside the Department of Music with the opportunity of pursuing studies in music while working on degrees in other fields. The University's radio stations afford music students unusual opportunities to gain experience in radio broadcasting.

Church Music

In 1947, a program was launched in response to the need of the church for trained and consecrated musicians to lead music programs, which are so vital to the church's spiritual life. It was thought that those selected to lead in the music of the church should have:

1. The finest possible training in music.
2. Challenging courses in Bible and religious education.
3. A thorough background in liberal arts.

To this end, the Department of Music presents a course of study leading to the degree Bachelor of Music, with a major in church music.

Musical Organizations

Cathedral Choir

The Cathedral Choir (a capella) is composed of about seventy young men and women singers. The group is heard over KUOA in both the 8:00 a.m. Cathedral Hour broadcast, and the regular 11:00 a.m. worship service each Sunday. In addition, the choir gives a concert at Christmas time, a major oratorio or cantata at Easter, and goes on yearly tours. It also is heard from time to time on special coast-to-coast network broadcasts. Try outs are scheduled in the fall.

Women's Triple Trio

The triple trio is composed of nine university women from the Cathedral Choir, selected for their skill in singing three-part harmony. This group is called on for personal appearances and makes several tours during the year. Replacement try outs are held early in the fall.

Male Quartet

Young men are selected from the Cathedral Choir to comprise the University Male Quartet. This group is in great demand for appearances in the community, and makes extended tours to represent the University. Replacement try outs are held in the fall.

String Quartet

The String Quartet is composed of four outstanding string players who are interested in the study and performance of chamber music and other string quartet repertoire. It is heard in recital, at social functions, and over the campus radio stations.

Orchestra

The Orchestra is composed of students who are capable of playing the instruments found in the modern orchestra. The group performs semi-classical and classical compositions selected from all periods of orchestral music. Public appearances are made throughout the year. New members are accepted at the opening of the school year.

Preparatory Groups

The purpose of the Preparatory Groups is to provide good training in music for children who wish to have instruction in voice or in particular instruments. To make the instruction more effective for these groups, two twenty-minute lessons per week are advised and are available at the same rate as single thirty-minute lessons per week. (See schedule of fees on pages 56 and 57.)

Vocational Training Opportunities

The Department of Music provides a variety of vocational training units for students who are expecting to make music a vocation. These involve experience in broadcasting, accompanying, student-teaching, etc.

Prerequisites for Music Major

The prerequisites for the selection of a course of study leading to a music degree are: (1) approval by the music faculty as to the students musical potential, by means of performance and musical aptitude tests; and (2) selection of a major field of study, with demonstrated ability to meet the particular requirements of that major upon entering the first year of study as listed below.

Until he reaches the required stage of advancement in the major subject, the student is considered as a pre-college student in his branch of applied music and will not receive credit until he is recommended by the music faculty. Such a student should enroll in O100, P100, S100 or V100, listed under "Private Lessons" (pages 57, 58).

The prerequisites for the various majors are as follows:

(a) Organ: Students must be able to do work of at least intermediate grade in piano music with good musicianship.

(b) Piano: Technical exercises covering hand position. Major and minor scales in parallel and contrary motion, triads and inversions, and broken chords and arpeggios; studies in Hanon, Clementi, Czerny and others; classical sonatinas, Bach's Little Preludes and Fuges, compositions such as Mendelssohn's Songs Without Words; easier sonatas, Mozart and Haydn, and pieces of comparable difficulty by the major composers.

(c) Strings: Proficiency in playing the first three positions, correct intonation, keys, scales, etc.; or the equivalent of three years of study as embodied in the following routine: Sevcik, Op. 6, Books 5, 6, 7; Sevcik, Op. 2, Book 2; Scale and Technic Studies for Violin, Max I, Fischer, Op. 9; Mazas, Op. 36, Book 1; Kayser, Op. 20, Book 2; Solo, as Bohm's Perpetual Mobil, Saint-Saen's The Swan, Gossic's Gavotte; Concertos, as Seitz's 1 and 4.

(d) Voice: A knowledge of note values, rests, kinds of rhythm, keys, scales, ability to play some standard instrument, a voice of good natural quality, and the ability to sing true pitch.

General Requirements for Music Degrees

1. Each candidate must select a major subject (organ, piano, strings, or voice), meet the yearly requirements as set by the music faculty, and pursue the major through a period of four years or its equivalent.
2. Each candidate for the degree of Bachelor of Music is required to select a minor subject in applied music. For students majoring in organ, strings, or voice, piano must be the minor subject, and continued until the required work as set by the music faculty has been completed.
3. Each music major must take ensemble work (without credit), as directed by his instructors, to meet the requirements for the degree.
4. Each candidate for the degree of Bachelor of Music is required to give recitals in the major subject during the junior and senior years. Each candidate for a music degree other than the Bachelor of Music is required to participate in a joint recital during the senior year, and may present a full recital with the permission of the instructor in the applied field.
5. All students receiving credit in applied music must attend faculty and student recitals.

No student may give any public musical performance, including radio broadcast, without permission from the faculty of the Department of Music.

Requirements for the Bachelor of Arts (B.A.) degree with major in Music

<i>Courses</i>	<i>Semester Hours</i>
Bible and religious education	16
English—including 113a,b	12

Modern foreign language—two years of one language, or equivalent	12
Natural Science—12 hours of laboratory science in two of the science departments, or 6 hours laboratory science and 6 hours made up of mathematics or of Music 303 and mathematics or other science	12
Social Studies—including Psychology 113; additional courses from economics, geography, history, political science, sociology	15
Vocational subjects—selected from designated vocational course sequences*, with approval of major adviser	usually 8-12
Music theory—including 164a,b, 232, 242, 244a,b, and 4 hours in music history	24
Applied music**—including 16 hours in one field	20
Minor—including 6 hours of junior-senior standing—art, radio production, or general education field recommended	18
Electives—including home economics for women students	8-12
Ensemble—at least one be taken every semester	0
Total	130

Vocational Training Units

A minimum of 120 V-credits, of which 64 credits are in Mus vocational training units, constitutes the typical program for this degree; selection of units is made in terms of the vocational objectives of the student, subject to the approval of the major adviser.

Requirements for the Bachelor of Music (B.Mus.) degree with major in Applied Music

<i>Courses</i>	<i>Semester Hours</i>
Bible and religious education	16
English—including 113a,b	12
Modern foreign language—may be two languages for voice majors	12
Social Studies—selected from psychology, economics, geography, history, political science, sociology	12
Vocational subjects—selected from designated vocational courses sequences*, with approval of major adviser	usually 8-12
Music theory—164a,b, 232, 242, 244a,b, 303, 312, 322, 432, 343, 353, 412, or 452, 442, 461, 471, 481 or 491	41
Applied music—major: 28; minor 6	34
Electives—including home economics for women students	2
Ensemble—at least one to be taken every semester	0
Total	130

* See "Approved Vocational Course Sequences," page 39.

** Voice majors must pass an examination in piano, or take 4 of the 20 hours in piano.

Requirements for the Bachelor of Music (B.Mus.) degree with major in Church Music

<i>Courses</i>	<i>Semester Hours</i>
Bible and religious education—including 8 hours in Bible	18
English—including 113a,b	12
Modern foreign language—may be two languages for voice majors	12
Social Studies—selected from psychology, economics, geography, history, political science, sociology	12
Vocational subjects—selected from designated vocational courses sequences*, with approval of major adviser	usually 8-12
Music theory—164a,b, 232, 242, 244a,b, 252, 312, 322, 343, 353, 412, 442, 461, 471, 451, or 481	39
Applied music—organ** or voice major; 4 hours in piano or equivalent	28
Electives—including 8 hours in Bible	11
Ensemble—Cathedral Choir each semester	0
Total	130

<i>Vocational Training Units</i>	<i>V-Credits</i>
A. For major in Applied Music: Voice	
Mus 11V8 and Mus 12V4 or 31V4	12
Mus 25V4, 8 and Mus 35, 45V4, 8	16
Mus 22V4, 32V4, 37V4, and/or 47V8	8-12
Mus 38V4, 8	8-12
Mus 10, 20, 30, 40V4, 8	64
Electives	12
Total	124

B. For major in Applied Music: Keyboard	
Mus 11V4, 8; 31V4, 8	12
Mus 25V4, 8 and/or 35, 45V4, 8	8-12
Mus 13, 23V4, 8 and Mus 33, 43V4, 8	16
Mus 10, 20, 30, 40V4, 8	64
Mus 38V4, 8	8-12
Electives	12
Total	124

* See "Approved Vocational Course Sequences," page 39.

** A keyboard major (piano or organ) with other than keyboard minor (strings, voice, or wind instrument), if satisfactory performance level in the major can be reached before graduation (subject to the approval of the Music Board), may count a maximum of six hours in the alternate keyboard instrument (organ or piano) toward the requirement in the major field.

A. For major in Church Music: Voice

Mus 11V4, 8 and Mus 12V4 or 31V4	12
Mus 25V4 and 35, 45V4	8
Mus 32V4, 8; 37V4, 8; 47V8 and/or 22V4	20
Mus 38V4, 8	8
Mus 10, 20, 30, 40V4, 8	64
Electives	12
Total	124

B. For major in Church Music: Organ

Mus 11V4 and 12V4	8
Mus 35, 45V4	8
Mus 13, 23V4, 8 and 33, 43V4, 8	16
Mus 47V8, 32V4, or 37V4	12
Mus 38V4, 8	8
Mus 10, 20, 30, 40V4, 8	64
Electives	12
Total	124

Requirements for minor in Music

<i>Courses</i>	<i>Semester Hours</i>
Applied Music and Music Theory—including 164a,b, 232, 242; or 152, 232, 242, and at least one course in the history of music.....	18
<i>Vocational Training Units</i>	<i>V-Credits</i>
Units selected by advisement and related to vocational objectives totaling a minimum of	32
Total	32

Requirements for Public School Teaching in Music

See Department of Education for curriculum details.

Music Fees

Each candidate for a degree in the Department of Music carrying a full course of fifteen hours or more will be entitled to a reduction of fifteen per cent in the total music fees.

Charges for Applied Music Lessons per Semester

	<i>Private Lessons</i>		
	Two	One	
	lessons	lesson	Single
	weekly	weekly	lesson
Organ	\$60.00	\$35.00	\$2.50
Piano	\$60.00	\$35.00	\$2.50
Stringed Instruments	\$60.00	\$35.00	\$2.50
*Voice	\$50.00-\$60.00	\$30.00-\$35.00	\$2.00-\$2.50
Wind Instruments	\$50.00	\$30.00	\$2.50

* The fee charged is based upon the instructor selected. Also the lower fee is charged when one class lesson is substituted for one of two lessons per week.

Class Lessons

Class lessons in stringed instruments, wind instruments, and voice —\$15.00 for one weekly class hour. This class rate is based on a class not smaller than four and not larger than eight students. Classes smaller than four will be charged proportionately more.

Practice Fees

	<i>One hour daily per semester</i>
Practice room with piano	\$6.00
Practice room without piano	\$3.00
Organ	\$10.00

Applied Music

The maximum total credit allowed for ensemble, band, mixed chorus, and orchestra toward the requirements of any degree is four hours.

A non-music major enrolled in applied music may receive credit for the number of hours listed without satisfying the requirements for admission to freshman standing in the applied music subject.

All students taking applied music for credit must attend faculty and student recitals.

Descriptions of Courses

Private Lessons

(Fees for private lessons are listed on page 56.)

<i>O100, O111a,b; O211a,b; O311a,b; and O411a,b</i>	<i>Organ Lessons</i>
	<i>Each course, one hour</i>
<i>P100, P111a,b; P211a,b; P311a,b; and P411a,b</i>	<i>Piano Lessons</i>
	<i>Each course, one hour</i>
<i>S100, S111a,b; S211a,b; S311a,b; and S411a,b</i>	<i>Stringed Instrument Lessons</i>
	<i>Each course, one hour</i>
<i>V100, V111a,b; V211a,b; V311a,b; and V411a,b</i>	<i>Voice Lessons</i>
	<i>Each course, one hour</i>
<i>W111a,b; W211a,b; W311a,b; and W411a,b</i>	<i>Wind Instrument Lessons</i>
	<i>Each course, one hour</i>

One or two private lessons and one hour daily practice per week. Prerequisite: see requirements to enter first semester of work in each particular major as listed on preceding pages. *In the case of two lessons per week, the second digit in the course number shall be a 2.*

Offered each semester and summer term.

<i>VP111a,b</i>	<i>Voice and Piano Lessons</i>	<i>Each course, one hour</i>
-----------------	--------------------------------	------------------------------

This course is provided for those who have had no previous instruction in instrumental music. The fee for this course is the sum of the two separate half-hour lessons.

Offered each semester and summer term.

O122a,b; O222a,b; O322a,b; and O422a,b Organ Lessons
Each course, two hours

P122a,b; P222a,b; P322a,b; and P422a,b Piano Lessons
Each course, two hours

S122a,b; S222a,b; S322a,b; and S422a,b Stringed Instrument Lessons
Each course, two hours

*V122*a,b; V222a,b; V322a,b; and V422a,b Voice Lessons*
Each course, two hours

W122a,b; W222a,b; W322a,b; and W422a,b Wind Instrument Lessons
Each course, two hours

Two private lessons and one and one-half hours daily practice per week. For students minoring in music or other non-majors. Prerequisite: see requirements to enter first semester of work in each particular major as listed on preceding pages.

Offered each semester and summer term.

O123a,b; O223a,b; O323a,b; and O423a,b Organ Lessons
Each course, three hours

P123a,b; P223a,b; P323a,b; and P423a,b Piano Lessons
Each course, three hours

S123a,b; S223a,b; S323a,b; and S423a,b Stringed Instrument Lessons
Each course, three hours

*V123*a,b; V223a,b; V323a,b; and V423a,b Voice Lessons*
Each course, three hours

W123a,b; W223a,b; W323a,b; and W423a,b Wind Instrument Lessons
Each course, three hours

Two private lessons and two hours daily practice per week. Prerequisite: see requirements to enter first semester of work in each particular major as listed on preceding pages.

Offered each semester and summer term.

O324a,b and O424a,b Organ Lessons *Each course, four hours*

P324a,b and P424a,b Piano Lessons *Each course, four hours*

S324a,b and S424a,b Stringed Instrument Lessons
Each course, four hours

V324a,b and V424a,b Voice Lessons *Each course, four hours*

W324a,b and W424a,b Wind Instrument Lessons *Each course, four hours*

Two private lessons and three hours daily practice per week. Prerequisite: see requirements for third and fourth year work for each particular major.

Offered each semester and summer term.

* For these courses, one of the two private lessons per week may be replaced by one class-hour per week, with a reduction in fee.

Class Lessons

(Fee for class lessons is shown on page 57.)

Class lessons in voice and instruments may be elected to fulfill the requirements of the public school teachers who must know how to organize and direct instrumental and choral groups.

141a,b Class in Voice

Each course, one hour

This course is designed to meet the needs of the beginning voice student. One hour of class each week and one hour of practice each day.

Miss Oiesen

141a offered fall semester; 141b offered spring semester.

151a,b Class in Wind Instruments

Each course, one hour

The class in wind instruments will study the method of playing the different types of band instruments, and their compass. Each student will be required to learn to play simple compositions on at least one instrument. One hour of class and one hour of daily practice each week.

Mr. Whitmore

151a offered fall semester; 151b offered spring semester.

161a,b Class in Stringed Instruments

Each course, one hour

The class in stringed instruments will study correct bowing, and will learn the various positions on the instruments and their functions in score reading. One hour of class and one hour daily practice each week.

Mrs. Lancaster

161a offered fall semester; 161b offered spring semester.

Ensemble Organizations

101a,b and 201 a,b Orchestra

Each course, one hour

Open to students who can play an orchestral instrument. Three hours each week. Prerequisite: consent of the director. Mrs. Lancaster

130 Vocal Ensemble

Selected vocal groups of various combinations who meet under the strict supervision of the music faculty two or more times each week. Prerequisite: consent of the director. Miss Oiesen; Miss Smith

180 Instrumental Ensemble

Selected instrumental groups who meet under the strict supervision of the music faculty two or more times each week. Prerequisite: consent of the director. Mrs. Lancaster

182a,b, 282a,b, 382a,b, 482a,b Cathedral Choir *Each course, two hours*

Advanced a cappella choral singing. Special stress is placed upon tone blending, advanced sight-singing, and unaccompanied choral music. Examinations for admission to this group will be scheduled in the fall only. Miss Oiesen

Music Theory and Literature

Descriptions of Courses

152 Fundamentals of Music

Two hours

This is a study of the fundamentals of music: notation, recognition of intervals, major and minor scales, rhythms, and practice in sight reading. One hour lecture-discussion, and two hours sightsinging and dictation per week.

Mrs. Lancaster

Offered fall semester.

161 Sightsinging and Dictation

One hour

A continuation of the sightsinging and dictation of 152. Two laboratory periods per week. Prerequisite: 152, or consent of instructor.

Staff

Offered spring semester.

164a,b Theory I

Each course, four hours

An integration of the aural, analytic, and written approaches to music. Melody construction, modulation, basic units of form: phase to double period; twopart counterpoint in free style; diatonic harmony in chorale style—including all of the normal harmonic equipment, and the contrapuntal devices of Bach's chorale harmonizations. Two hours lecture-discussion and four hours sightsinging, keyboard, and dictation per week.

Mr. Zimmerman

164a offered fall semester 1959 and thereafter; 164b offered spring semester 1960 and thereafter.

165a,b Theory I

Each course, five hours

An integration of the aural, analytic, and written approaches to music. Melody construction, modulation, basic units of form: diatonic harmony in chorale style—including all of the normal harmonic equipment, and the contrapuntal devices of Bach's chorale harmonizations. Seven hours recitation, sightsinging, dictation, and keyboard per week.

Mr. Zimmerman

165a offered fall semester 1958; 165b offered spring semester 1959.

232, 242 Visual Arts and Music

Each course, two hours

An introduction to the visual arts and music, with emphasis on understandings and appreciation, form, styles, and media. Designed especially to meet general education needs in the fine arts. No technical knowledge required.

Miss Oiesen

232 offered fall semester; 242 offered spring semester.

243a,b Theory II

Each course, three hours

A continuation for Theory I. Original chorales; extensions of phrase and period; instrumental harmonic devices of the eighteenth century; two-part song form; further study of two-part counterpoint applied in the two-part invention. Four hours lecture-discussion, sightsinging, dictation, and keyboard per week. Prerequisite: 165b. To be discontinued after 1959-60.

Staff

243a offered fall semester 1959; 243b offered spring semester 1960.

244a,b *Theory II*

Each course, four hours

A continuation of Theory I. Original chorales; extensions of phrase and period; instrumental harmonic devices of the eighteenth century; two-part song form; further study of two-part counterpoint applied in the two-part invention. Two hours lecture-discussion and four hours sightsinging, keyboard, and dictation per week. Prerequisite: 164b. Staff

244a offered fall semester 1960 and thereafter; 244b offered spring semester 1961 and thereafter.

252 *Hymnology*

Two hours

A study of Protestant hymnology in relation to the historical development of the church. Prerequisite: 152, or equivalent.

Mr. Whitmore; Miss Smith

Offered spring semester.

272 *Elementary Public School Music*

Two hours

Methods of teaching music in the public school, use and treatment of the child voice, rote songs, and notation and development of rhythm. This course is required for those who expect to teach in elementary public schools. Prerequisites: 152, or ability to pass a test covering note reading and scales.

Mrs. Lancaster

Offered spring semester.

303 *Physics of Musical Sound*

Three hours

A study of the physical laws of music; the behavior of vibrating strings, air columns, membranes, resonating devices, etc. as applied to musical instruments; methods of producing scales and intervals on musical instruments; the history and development of the piano. Six hours of class and laboratory each week. Laboratory fee: \$10.00

Mr. Whitmore

Offered fall semester (even-numbered years).

312 *History of Music I*

Each course, two hours

A study of the historical development of music from pre-Christian music through the baroque and classical periods.

Mr. Zimmerman

Offered fall semester (odd-numbered years).

322 *History of Music II*

Each course, two hours

A survey of styles, forms, and musical techniques of the great composers of the romantic era, from Beethoven to Debussy.

Mr. Whitmore

Offered spring semester (even-numbered years).

343 *Theory III*

Three hours

A continuation of Theory II. Types of instrumental style; the compound song form; and analysis of larger forms. Four hours recitation, sightsinging, dictation, and keyboard per week. Prerequisite: 243b, or 244b.

Staff

Offered fall semester.

353 *Theory IV*

Three hours

A continuation of Theory III. Three-part counterpoint applied to the three-part invention and analysis of fugue. Four hours recitation,

sightsinging, dictation, and keyboard per week. Prerequisite: 343. Staff
Offered spring semester.

372 Secondary Public School Music *Two hours*

Methods of teaching music in junior and senior high schools. Discussion of the use and treatment of the adolescent voice and other problems. Mr. Whitmore

Offered fall semester.

412 Choral Arranging *Two hours*

A course in the analysis of vocal scoring in hymns and anthems, with special emphasis on creative writing. Independent study and individual conference. Prerequisite: 243b or 244b or consent of instructor. Fee: \$15.00 each course. Miss Smith

Offered fall semester (odd-numbered years).

432 History of Music III *Each course, two hours*

A study of modern music from Debussy to the present day. Prerequisite: 243b, or 244b. Miss Smith

Offered upon sufficient request.

442 Conducting and Score Reading *Two hours*

Basic choral and instrumental conducting techniques. Practice in score reading and in conducting both choral and instrumental music. Prerequisite: Consent of instructor. Mrs. Lancaster

Offered upon sufficient request.

451 Improvisation and Service-Playing *One hour*

Fundamentals of improvisation; techniques for playing hymns, anthems, and solo accompaniments. Prerequisite: Consent of instructor. Mr. Zimmerman

Offered upon sufficient request.

452 Instrumentation *Two hours*

A study of the instruments of the orchestra and band, together with a practical study of the art of scoring for small combinations of instruments and for full orchestra and concert band. Prerequisite: 243b or 244b, or consent of instructor. Mrs. Lancaster

Offered upon sufficient request.

461 Music Methods *One hour*

Methods in applied music (major or minor field): piano, violin, organ and voice; study of teaching technique and materials; may include supervised teaching. Prerequisites: six semesters of applied music, major and minor. Staff

Offered upon sufficient request.

471 Music Methods *One hour*

Supervised teaching in applied music subjects and conferences with supervisor as to techniques and methods. One hour of conference and two hours supervised teaching per week. Prerequisite: 461. Staff

Offered upon sufficient request.

481 *The Art Song*

One hour

A study of the art song from Scarlatti to the present day, with emphasis on the German *Lieder*. French Impressionism and modern songs. Two hours for lecture, recitation, and listening to recorded music. Prerequisite: Consent of instructor.

Miss Oiesen

Offered upon sufficient request.

491 *Keyboard Literature*

One hour

Chronological survey of music for the keyboard from the seventeenth century to the present time. Two hours for lecture, recitation, and listening to recorded music per week. Prerequisite: Consent of instructor.

Mr. Zimmerman

Offered upon sufficient request.

Descriptions of Vocational Training Units

10, 20, 30, 40V4, 8 *Ensemble Member* Each unit, four or eight credits

Membership in one or two of the following organizations:

Cathedral Choir (8 credits per semester)

Triple Trio (4 credits per semester)

Male Quartet (4 credits per semester)

Keyboard (4 credits per semester) 20, 30V4 only

Orchestra (4 credits per semester)

Brass, String or Woodwind (4 credits per semester)

Pep Band (4 credits per semester)

Note: No more than eight credits may be accumulated in ensemble work for any semester.

Offered each semester.

11V4, 8 *Music Librarian (Elementary Techniques)* Four or eight credits

Does accessioning, cataloging, filing; cares for recordings and reserve materials; works at the desk, keeps record of library's use, and promotes use of library.

12V4, 8 *Choir Librarian*

Four or eight credits

Distributes, files, cares for, and mends music.

13, 23V4, 8 *Accompanist (Lower Division)*

Each unit, four or eight credits

Accompanies applied music students, small vocal or instrumental ensembles, and/or plays for church services. Prerequisite: Consent of applied music instructor.

14V4, 8 *Orchestra Librarian*

Four or eight credits

Files music; mends, care for, and distributes folders; copies, and makes out orders.

22V4 *Song Leader*

Four credits

Employs techniques and principles of song leading, hymn selection, and musical planning in actual services.

25V4, 8 *Music Workshop Participant* *Four or eight credits*

Employs radio and stage performance and production techniques. Rehearses for and performs in radio, opera, and other stage productions.

31V4, 8 *Music Librarian (Advanced Techniques)* *Four or eight credits*

Uses recorded music in research, reviews, musical criticism. Prerequisites or corequisites: Mus 11V4, 8 and Mus 312, 322, or 432.

32V4 *Junior Choir or Orchestra Director* *Four credits*

Has responsibility for planning, organizing, selecting music for, and directing junior choir or orchestra.

34V4, 8 *Instrument Repairman* *Four or eight credits*

Strings—Sets posts, repairs bows, reglues seams, etc. Wind—Conditions reeds, key pads, etc. Percussion—Mounts drum heads, etc. Prerequisite or corequisite: Mus 372, or consent of instructor.

35, 45V4, 8 *Radio Music Program Planner and Producer*
Each unit, four or eight credits

Uses techniques of recording, editing, timing, microphone placement, and preparation of music continuity in special and/or regular broadcasts.

37V4 *Student Choir or Orchestra Director* *Four credits*

Section leader; acts as director's assistant in conducting rehearsal and performance of the Cathedral Choir or University Orchestra. Prerequisite or corequisite: Mus 442.

38V4, 8 *Teacher Aide (Applied Music)* *Four or eight credits*

Selects music and teaches private lessons.

33, 43V4, 8 *Accompanist (Upper Division)*
Each unit, four or eight credits

Accompanies advanced applied music students, has responsibility for service planning and performance, and/or accompanies choir or orchestra rehearsals and performances.

44V8 *Piano and Organ Tuner and Repairman* *Eight credits*

Maintains and repairs pianos and organs: tunes, cleans, repairs, and refelts.

47V8 *Church Choir Director* *Eight credits*

Is responsible for organizing, administrating, and directing an adult choir in a local church. Prerequisite or corequisite: Mus 442.

Department of Radio Production (Symbol: RP)

The objective of the Radio Production Department is to give a broad basic training in the techniques of all phases of broadcasting except that of engineering. An awareness of the public responsibility of the broadcaster is cultivated. Emphasis is laid on the constant need for creative leadership. Script writing, announcing, dramatic produc-

tion, radio selling, and news editing are included in every radio production major program, and each student has ample freedom to specialize within course requirements. Summer courses are available according to demand.

Requirements for the Bachelor of Science (B.S.) degree with major in Radio Production

<i>Courses</i>	<i>Semester Hours</i>
Bible and religious education	16
English 113a,b, 383, 393, and 6 hours literature	18
Natural Science—12 hours laboratory science, or 6 hours laboratory science and 6 additional hours of science and/or mathematics	12
Social Studies—including Psychology 113; additional courses from economics, geography, history, political science, sociology	15
Business 113, or equivalent	3
Radio production 243, 253, 313, 323, 423, 433, 443, 453, and 6 hours of speech	30
Electives—including minor**, English excluded, of 18 hours, of which 6 hours must be junior-senior standing	36
Total	130

<i>Vocational Training Units</i>	<i>V-Credits</i>
RP 10V4, 11V4, 12V4, 13V	32
RP 22V, 32V, 42V	16
RP 20V, 30V, 40V	32
RP 31V, 41V	16
Electives, chosen from RP and/or minor field units	32
Total	128

Requirements for minor in Radio Production

<i>Courses*</i>	<i>Semester Hours</i>
Speech	3
Radio production	15
Total	18

<i>Vocational Training Units</i>	<i>V-Credits</i>
RP 10V3, 11V3, 12V6	12
RP 30V and/or 32V	20
Total	32

**The student is strongly urged to select the minor in music, business, or radio engineering.

* In case of a required 24-hour minor, the additional hours may consist of either speech or radio production or both. Speech counted toward an English minor may not be applied to this minor.

Descriptions of Courses

243, 253 Radio Speech and Production I, II Each course, three hours

These courses provide training in the theoretical and practical phases of basic microphone technique, pronunciation for radio, announcing techniques, various radio speech exercises, and the elements of program production. Prerequisite: 6 hours of speech, or consent of instructor.

Mr. Kennedy

243 offered fall semester; 253 offered spring semester.

313, 323 Radio and Television Writing I, II Each course, three hours

These courses provide training and practice in writing announcements, general program scripts, drama, and news for radio and television. Prerequisites: 243 and 253 or consent of instructor.

Mr. Kennedy

313 offered fall (odd-numbered years); 323 offered spring (even-numbered years).

423 Advertising

Three hours

See course description under Business 423.

Offered spring semester upon sufficient request.

433, 443 Radio and Television Operation and Management I, II

Each course, three hours

These courses constitute a survey of the field, including study of government regulations, a layman's approach to some of the technical aspects of radio and television, studio planning and equipping, programming, surveys, staff organization, business methods used in broadcasting, and sales techniques. Prerequisite: junior standing in radio production or in business.

Mr. Kennedy

433 offered fall semester (even-numbered years); 443 offered spring semester (odd-numbered years).

453 Advanced Radio Workshop

Three hours

This course provides advanced training and actual practice in writing, producing, directing, and participating in programs for radio broadcast. The emphasis is on dramatic presentations. Prerequisite: junior standing in radio production, or consent of instructor

Mr. Kennedy

Offered upon sufficient request.

Descriptions of Vocational Training Units

10V3 Announcing Trainee

Three credits

Practices reading radio script and making ad lib announcements, with emphasis on voice improvement and pronunciation. Participates in scheduled laboratory two hours per week.

11V3 Script Writing Trainee

Three credits

Practices writing commercial and non-commercial announcements and program scripts. Completed work is used on the air when approved by the instructor. Participates in scheduled laboratory two hours per week.

12V6 Apprentice Announcer-Operator *Six credits*

Announces, handles control equipment, and selects program materials for broadcasting on KUOA-fm.

13V4 General Office Assistant *Four credits*

Handles typing, shipping, and other office routine.

20, 30, 30V4, 8, 12, 16 Assistant Traffic Clerk and Script Writer
Four, eight, twelve, or sixteen credits

Announces programs and commercials and operates control equipment on a regular assigned shift.

22, 32, 42V4, 8, 12, 16 Assistant Traffic Clerk and Script Writer
Four, eight, twelve, or sixteen credits

Composes program and commercial scripts, and assists in preparation of program schedules.

24V4, 8, 12, 16 Production Assistant
Four, eight, twelve, or sixteen credits

Assists program director in areas such as tape recording and auditioning recorded material.

31, 41V4, 8, 12, 16 Newscaster and Special Announcer
Four, eight, twelve, or sixteen credits

Prepares and broadcasts news, announces live talent shows, conducts special programs such as interviews, and records announcements for broadcast.

43V4, 8, 12, 16 Sales Assistant *Four, eight, twelve, or sixteen credits*

Assists KUOA salesman in contacting local advertisers for radio script information, and in selling radio time.

44V4, 8, 12, 16 Advanced Production Assistant
Four, eight, twelve, or sixteen credits

Supervises apprentice announcer-operators, produces live talent programs, and assists Program Director.

45V4, 8, 12, 16 News Editor *Four, eight, twelve, or sixteen credits*

Gathers and writes local news, and rewrites teletype news copy for scheduled broadcasts.

Department of Speech (Symbol: Spch)

Descriptions of Courses

213 Voice Training *Three hours*

Training and practice in improving vocal conditions; exercises for developing poise, increasing range, resonance, articulation, enunciation.
Mr. Kennedy

Offered spring semester (odd-numbered years).

223 Fundamentals of Public Speaking

Three hours

A course designed to give students an understanding of and practice in public speaking; training in the use of voice and body, speech organization, elements of pronunciation and use of language, and the principles of effective delivery.

Mr. Kennedy

Offered fall semester.

233 Speech Interpretation

Three hours

A course in oral reading to help students read various types of materials with naturalness and individuality; also to develop appreciation of literature.

Mr. Kennedy

Offered spring semester (even-numbered years).

DIVISION OF BIBLE AND RELIGION

Dearborn, Ellis (chairman), Schimpf, E. Smith

This division has a major responsibility in the spiritual development of the student, while at the same time contributing to his academic and vocational training. It is evangelical and nonsectarian, committed to a belief in the Bible as the Word of God.

The division further aims:

1. To direct each student toward a commitment of himself to Jesus Christ as Lord and Savior.
2. To awaken an interest in the Bible and related themes that will continue throughout the student's entire life.
3. To stimulate the student's thinking relative to spiritual truth and to encourage him toward reaching proper conclusions of his own.
4. To qualify the student for various types of Christian service, including effective personal witnessing concerning Jesus Christ.

Certain organizations on campus, such as the Christian Workers Fellowship, Foreign Missions Fellowship, the Cathedral Choir, and other forms of Christian activity that are available serve to assist the Division of Bible and Religion in providing practical experience in Christian service.

Requirements for the Bachelor of Arts (B.A.) degree with major in Bible and Religion

<i>Courses</i>	<i>Semester Hours</i>
Art and/or music	4
English—including 113a,b and 6 hours speech or literature	12
Foreign language (preferably Greek)—if Greek, 16 hours, 8 of which may be counted toward the major	12 or 16
Natural Science—12 hours laboratory science, or 6 hours laboratory science and 6 additional hours of science and/or mathematics	12
Social Studies—including Psychology 113; 6 hours history; and 6 hours elected from economics, geography, history, political science, sociology	15
Vocational subjects—selected from designated vocational course sequences*, with approval of major adviser	usually 8-12
Bible and Religion—including REd 212 or 213; REd 313, 323, 343, or 433; may include Grk 312 through 422	30
Electives—including a minor of 24 hours, of which 12 hours are of junior-senior standing	23-31
Total	124

Vocational Training Units

The requirements for students majoring in Bible and Religion

* See "Approved Vocational Course Sequences," page 39.

JOHN BROWN UNIVERSITY BULLETIN

include a total of at least 60 V-credits in REd vocational training units. Among these units, the *uniform basic requirement*, irrespective of the students' particular vocational objectives, consists of the following.

	<i>V-Credits</i>
REd 12V	3-12
REd 13V and/or 15V	3-24
REd 14V	3-15
REd 20V	3-9

Additional required units, and stipulated V-credits, for various vocational objectives are as follows:

A. For the prospective pastor	
REd 21V	3
REd 24V	16
REd 25V	30
Electives, including any required units in the minor field	60
Total	120
B. For the prospective evangelist or evangelistic missionary	
REd 13V and/or 15V	24
REd 24V	8
REd 25V	15
Electives, including any required units in the minor field	60
Total	120
C. For the prospective director of religious education	
REd 11V	4
REd 21V	12
REd 30V	30
Electives, including any required units in the minor field	60
Total	120
D. For the prospective educational missionary	
REd 11V	4
REd 21V	6
REd 30V	15
REd 31V	16
Electives, including any required units in the minor field	60
Total	120
E. For the prospective missionary, except educational and evangelistic missionaries	
REd 23V, 24V, 25V	as advised
Electives, including any required units in the minor field	60
Total	120

F. For the prospective church secretary	
REd 10V	30
REd 11V	4
REd 21V	6
Electives, including any required units in the minor field	60
Total	120

Requirements for minor in Bible and Religion

Courses

A minimum of 18 semester hours in courses within the division are required—including a total of 6 hours of junior-senior standing; REd 213; REd 313, 323, 343, or 433.

Vocational Training Units

A minimum of 45 V-credits in REd units is required—including participation in all units designated for the major of the same vocational objective. Total V-credits to be earned in each unit will be determined by advisement. In general, the units in the minor should be taken during the first three years.

Department of Bible (Symbol: Bible)

It is expected that each student will learn the general content and meaning of the Bible and it is desired that he shall accept it as the Word of God—and learn to read it regularly for the counsel it gives toward establishing character and guiding behavior. Each student should develop good judgment in finding and using helps to his understanding of the Bible—and in applying its precepts.

Descriptions of Courses

112 Orientation in Bible

Two Hours

This course aims to acquaint the student with the various books of the Bible and their classifications. Consideration is given to the principal message of the Bible, and the general outline of the Biblical narrative. Study is devoted to the origin and development of the various English versions of Scripture. A brief study of the Gospel of Mark is made, which introduces the student to the main features in the life of Christ.

Mr. Schimpf

Offered fall semester.

122 Orientation in Bible

Two Hours

The book of Acts, which shows the progress of the Gospel and the establishment of the early Christian church, is considered. At the conclusion of this study, an examination of the fundamental doctrines of the Christian church is made. In this part of the course the main doctrinal positions of the early Church itself are explored and summarized.

Mr. Schimpf

Offered spring semester.

212 Synoptic Gospels

Two hours

An analysis and comparative interpretation of the synoptic Gospels. Emphasis will be placed on both the works and the teaching of Jesus and the bearing of these on His Person and mission, and on the lives of men.

Mr. Smith

Offered fall semester and alternate summers.

222 Johannine Writings

Two hours

The distinctive characteristics of the writings of John are studied in this course. The individual nature of the fourth Gospel as compared with the synoptics is noted. The epistles of John are compared with the Pauline and Petrine epistles. The Revelation of John, as the capstone of Biblical prophecy, receives careful attention.

Mr. Smith

Offered spring semester and alternate summers.

313 Mosaic Law

Two hours

The first five books of the Old Testament form the basic text material for this course. Hebrew (Mosaic) law is studied in all its various aspects: moral, civil, and ceremonial. Contemporary law of the Gentile nations will be compared to make clear the superior character of Mosaic revelation. The use of Mosaic law in the New Testament is considered.

Mr. Schimpf

Offered fall semester.

322 History of the Hebrew Nation

Two hours

In this course, there is a close study of the development, progress, and fall of the Hebrew nation. All books from Genesis through Esther are made the basis for this study.

Mr. Schimpf

Offered spring semester.

332 Poetical Books of the Old Testament

Two hours

This course deals with Hebrew poetry, David the song writer, the religion of the Psalms, the devotional element, wisdom, and literature. The study includes the book of Job through the Song of Solomon, with analytical study of selected passages.

Staff

Offered upon sufficient request.

342 Isaiah and Minor Prophets

Two hours

Discussion of the place of prophecy in God's plan; the nature, development, and value of the prophetic function; the prophets as both mouthpieces of God and men in their day; the historical background; the prophet's relation to his own and later times; Messianic foregleams; the national, social, and personal scope of the prophets as seen against the background of the world in which they lived and viewed in respect to parallel conditions of the present day.

Staff

Offered spring semester (odd-numbered years).

352 Jeremiah, Ezekiel, Daniel

Two hours

The same plan procedure as in 342.

Staff

Offered spring semester (even-numbered years).

422 Corinthians, Thessalonians, and Pastoral Epistles *Two hours*
 An interpretation of these epistles based on thorough analysis
 and scientific exegesis. Mr. Smith
 Offered fall semester.

432 Romans, Galatians, and Prison Epistles *Two hours*
 The same plan and procedure as in 422. Mr. Smith
 Offered spring semester.

442 General Epistles *Two hours*
 In this course the following books are studied: Hebrews, James,
 I and II Peter, I, II, and III John, and Jude. It is expected to discover
 the theme and the purpose of each epistle and to see how the author
 expects to accomplish his purpose. Mr. Smith
 Offered fall semester (odd-numbered years).

Department of New Testament Greek (Symbol: Grk)

It is expected that each student will learn the essentials of the
 grammar of the Greek New Testament, learn the meanings of the
 most used words of the New Testament, and acquire some skill in
 using these in learning the meaning of the New Testament. Each stu-
 dent is encouraged to pursue the study of New Testament further, and
 to form the habit of referring to his Greek New Testament, grammars,
 and lexicon as helps in his study.

Descriptions of Courses

214a,b Beginner's New Testament Greek *Each course, four hours*
 A study of the elementary Greek grammar, drill in declensions
 and conjugations, reading in simple prose, and translating easy sen-
 tences into Greek. In the second semester, I John is translated from
 Greek into English Mr. Smith
 Offered upon sufficient request.

312, 322 Syntax of New Testament Greek *Each course, two hours*
 A study of the syntax of the grammar of the Greek New Testa-
 ment, together with the translation and study of extended sections of
 the Gospels. Mr. Smith
 Offered upon sufficient request.

412, 422 New Testament Exegesis *Each course, two hours*
 In these courses the student will have practice in applying the
 principles of Greek grammar, lexical studies, Bible doctrine, etc., to
 the solution of problems of New Testament interpretation. Mr. Smith
 Offered upon sufficient request.

Department of Religious Education (Symbol: REd)

This department aims to provide an opportunity for students from
 all departments to gain the basic understanding necessary to develop

a Christian philosophy that will relate all life and learning to their Christian faith; to provide opportunity to acquire the techniques of teaching and witnessing for Christ—enabling them to become effective workers in their home churches. The department also aims to provide opportunity for students who plan to enter such fields of Christian service as missionary, rural pastor, youth leader, or educator, for example; to gain basic knowledge and experience in these areas; or to prepare for graduate study.

Descriptions of Courses

212 Sunday School Methods and Pedagogy *Two hours*

A study of the needs of children, youth, and adults, together with the curriculum, lesson materials, and methods for meeting those needs most effectively—particularly through the Sunday School, but also through the weekday school, vacation Bible school, special study courses, and the other expressional sessions of the church school—with an emphasis on teaching methods and the abiding values in Christian education. Prerequisite: Bible 122, or equivalent. Mr. Ellis

Offered fall semester.

213 Introduction to Philosophy *Three hours*

A study of the basic principles and types of philosophy, with sufficient historical reference to enable the student to distinguish between prejudice and beliefs which properly may give direction and motive power to life. Staff

Offered spring semester.

222 Evangelism *Two hours*

A study of evangelistic methods in which the major emphasis is on the soul-winning efforts of the individual seeking to win other individuals to Christ. One hour lecture-discussion and three hours laboratory per week, coordinated with Christian Workers Fellowship assignments which offer evangelistic opportunities. Mr. Ellis

Offered upon sufficient request.

313 Comparative Religion *Three hours*

A study of the living religions of the world, their apprehension of existence, their beliefs and religious practices, and their relation to the Christian faith. Prerequisite or corequisite: 213. Mr. Ellis

Offered upon sufficient request.

322 Church School Departmental Work *Two hours*

A study of the departmental organization and administration of the local church school in all its forms. The responsibility of the pastor, director of religious education, and other officers of the church school are studied, along with the problem of housing and equipment—with an emphasis on the special problem of the rural church school. Mr. Ellis

Offered spring semester (even-numbered years).

323 Philosophy of the Christian Faith

Three hours

A study of the basic assumptions, eternal values, and implications of Christian faith. This includes consideration of a Christian philosophy of history and education. Prerequisite or corequisite: 213. Mr. Smith

Offered upon sufficient request.

332 Pastoral Theology

Two hours

A study of the essential qualities of a pastor, together with his problems, opportunities, and methods. It includes the relation of the pastor to the other officers and the various organizations within the church, and emphasizes the pastoral functions and the unique opportunities of the rural ministry. Discussion of the specific problems of student pastors is encouraged. Staff

Offered upon sufficient request.

333 Homiletics

Three hours

This course takes up the study of the sermon, its preparation and delivery including an examination of various types of sermons. Assigned readings, class discussion, sermon outlines, class preaching. Staff

Offered upon sufficient request.

343 Christian Ethics

Three hours

A study of the Christian moral ideal, demonstrating that the Christian life view is incapable of divorce from the Christian world view. Prerequisite or corequisite: 213. Mr. Ellis

Offered upon sufficient request.

413 Church History, Pre-American

Three hours

A survey of the history of the Christian churches from the apostolic age to the rise of the great Anglo-American denominations. Emphasis is laid on the simplicity of the early church; the writings of the church fathers; the rise and development of the Roman and Eastern Catholic churches; early attempts at reformation of these churches; the Protestant reformation, Lutheran, Calvinist, Ana-baptist, and Anglican, and the origin and development of some other present-day denominations. Mr. Ellis

Offered fall semester (odd-numbered years).

422 Basis and Methods of Missions

Two hours

A study of the Biblical doctrine of missions and of the methods developed by outstanding missionaries of the important missionary organizations of the modern era. Discussion of the specific problems of missionary candidates is encouraged. Mr. Ellis

Offered upon sufficient request.

423 American Churches and Missions

Three hours

The history of the Anglo-American denominations, sects, and cults in relation to the modern missionary movement, in which they had a major part. The free diversity of Christianity in the United States and Canada, the unique American system of religious liberty, and the coordinate expansion of Christian missions by denominational, inter-

denominational, and independent missionary organizations are emphasized as having made Christianity the first truly worldwide religion.

Mr. Ellis

Offered spring semester (even-numbered years).

433 Christian Apologetics

Three hours

A presentation of the Christian faith in its intellectual and objective sense for the specific purpose of establishing its many evidences. The student is brought face to face with current objections to Christianity, and is instructed in the methods of its defense and propagation in the face of many forms of opposition. Such topics as rationalism and criticism, as well as contemporary misstatements of the Christian faith, are discussed. The defense of the Christian faith is presented both from the logical and empirical point of view. Prerequisite or corequisite: 213.

Mr. Smith

Offered upon sufficient request.

443 Great Doctrines of the Bible

Three hours

A study of the outstanding doctrines contained in the Scriptures presented in a systematic way. Such doctrines as those concerning God, Man, Christ, Salvation, the Church, and the Last Things are considered from a nonsectarian point of view.

Mr. Smith

Offered upon sufficient request.

Descriptions of Vocational Training Units

10V3, 6 Church Secretary

Three or six credits

Handles church correspondence, filing, and reports.

11V2, 4 Sunday School Secretary

Two or four credits

Orders literature, distributes and collects materials, and keeps permanent records.

12V3, 6, 9 Church School Teacher

Three, six or nine credits

Prepares for and teaches Sunday school class, child evangelism group, or youth class. Prerequisite or corequisite: REd 212.

13V3, 6 Evangelist (Institutional, etc.)

Three or six credits

Visits jails or institutions such as old folks homes, or participates in street meetings, explaining the Gospel so as to challenge (or call forth) a decision for Christ, wherever possible.

14V3, 6 Youth Leader

Three or six credits

Assists in leadership of religious education, expressional, and recreational activities. Prerequisite or corequisite: Mus 22V4.

15V4 Evangelist (Children's work)

Four credits

Participates in the program of the International Child Evangelism Fellowship, Inc. Following training by the organization, conducts "Good News Clubs," in which children are taught and won to Christ, in meetings held after school hours.

20V3, 6 Church Visitor

Three or six credits

Visits prospects, absentees, parents, and sick. May be repeated to a maximum of twenty-four credits.

21V3, 6 Church School or Department Superintendent

Three or six credits

Organizes, promotes, and supervises church school or young people's activities. May be repeated to a maximum of twelve credits.

23V4, 8 Evangelist (Mass and Visitation)

Four or eight credits

The conduct of evangelistic meetings, or visitation evangelism campaigns in church or fellowship points. May be repeated to a maximum of twenty-four credits.

24V8 Assistant Pastor

Eight credits

Assists in the administration of church educational program, finance, recreation, etc. May be repeated to a maximum of sixteen credits.

25V15 Pastor

Fifteen credits

Exercises general oversight of a church or fellowship point. May be repeated to a maximum of thirty credits. Prerequisite: 24V for sixteen credits, or equivalent experience.

30V15 Director of Religious Education

Fifteen credits

Exercises general oversight of church's educational program and youth work. Prerequisites: Two semesters each of 10V, 11V, 12V and one semester of 20V, or equivalent experience.

31V8 Teaching Assistant

Eight credits

Supervises meetings in the street, jails, and old folks home; helps in the preparation, administration, and grading of tests and vocational reports. May be repeated for a total of 32 V-credits.

DIVISION OF ENGINEERING

Brammer, Dearborn, Frye, Olney (chairman), Pearson, C. Smith, Willis

The Division of Engineering operates with the objective of graduating young men in engineering who are trained in engineering science, analysis, and design; who are skilled and experienced in applied engineering; and whose lives reflect the love of Christ.

The curricula required of engineering students have as a goal the establishment of a solid foundation in the basic sciences of mathematics, chemistry, and physics, a strong framework of engineering sciences, and a finish of engineering analysis and design. Classes and laboratories are planned to achieve this goal.

The vocational training program is designed to give engineering students experience and skill in the application of engineering to the trades and to technical problems. The training, production, and maintenance shops are equipped for the following: gas and electric welding; machine shop work; woodworking; automobile testing and repair; electrical testing and rewinding of motors; mechanical, electrical, and building maintenance; manufacturing; airport operation; and the production and distribution of heat and power on the campus. For students interested in construction, there is opportunity to participate in the building program on the campus. For students in communications, experience can be gained in the operation and maintenance of both AM and FM equipment in Radio Station KUOA.

Engineering students are encouraged to take active part in the Christian activities of the University. Those who are interested in entering into Christian service such as that of technical missionaries may receive training in the Division of Engineering coincident with training in the Division of Bible and Religion.

Department of General Engineering (Symbol: GE)

The program in General Engineering is designed to meet the need for basic required courses. These are required of every student planning to receive a degree with a major in any field of engineering.

*General Engineering course requirements applying to all
Bachelor of Science (B.S.) degrees involving
majors in the various engineering fields*

General Engineering 111, 112, 121, 333, 343, 353, 433 16 hrs.

Descriptions of Courses

111 Engineering and Shop Orientation I

One hour

A course designed to orient the student in the general field of engineering and to acquaint him with modern shop methods and processes used in industry. Lectures, audio-visual, testing, and guidance methods are employed. For engineering majors, vocational training unit GE 10V8 is corequisite.

Mr. Brammer

Offered fall semester.





112 Engineering Drawing

Two hours

A course emphasizing the fundamentals of mechanical drawing; standard drafting room practice in the use of instruments; lettering; and orthographic, oblique, and isometric projection. Both group and individual instruction. One hour lecture-discussion and three hours laboratory per week. Fee: \$2.00

Mr. Dearborn

Offered fall semester, and summer term upon sufficient request.

121 Engineering and Shop Orientation II

A continuation of 111. For engineering majors, vocational training unit GE 15V8 is corequisite.

Mr. Brammer

Offered spring semester.

333 Engineering Materials

Three hours

A comprehensive study of the properties and manufacture of engineering materials—involving laboratory testing of steel, wood, concrete, and other materials. One hour lecture-discussion and two two-hour laboratory periods per week. Fee: \$10.00.

Mr. Olney

Offered spring semester.

343 Statics

Three hours

A study of force systems in a plane and in space, using graphical and analytical methods. Analysis of stresses in structures, friction, centroids, and moments of inertia are included. Prerequisite or corequisite: Math 213, Calculus I.

Mr. Dearborn

Offered fall semester.

353 Strength of Materials

Three hours

This course is designed for the student who plans to enter the practical engineering field of modern industry, as well as for the design or research engineer. It covers in a practical and thorough manner the usual elements of strength of materials with the use of calculus. Prerequisite: 343. Prerequisite or corequisite: Math 223, Calculus II.

Mr. Olney

Offered spring semester.

433 Professional Practices

Three hours

A study of business, legal, and ethical phases of engineering. Theory and practice in writing specifications and contracts, and in accounting, are given. Two hours lecture-discussion and two hours laboratory per week.

Mr. Olney

Offered fall semester. May be offered summer upon sufficient request.

Descriptions of Vocational Training Units

10V8 Shop Trainee (Applied Heat Power and Electricity)

Eight credits

Trains in basic hand skills related to engineering, and develops improved shop methods and safety measures; gains experience in applied heat power and electric shop. Corequisite: General Engineering 111. Fee: \$10.00.

Offered fall semester.

11V $\frac{1}{4}$ Shop Trainee (Applied Heat Power) *Four credits*

Trains in applied heat power. Attendance at related class work of General Engineering 111 (one hour per week for eight weeks) required. Fee: \$5.00.

Offered fall semester.

12V $\frac{1}{4}$ Shop Trainee (Electricity) *Four credits*

Trains in electric shop. Attendance at related class work of General Engineering 111 (one hour per week for eight weeks) required. Fee: \$5.00.

Offered fall semester.

15V8 Shop Trainee (Metal Fabrication and Building Construction) *Eight credits*

Trains in metal fabrication and in building construction. Corequisite: General Engineering 121. Fee: \$10.00.

Offered spring semester.

16V $\frac{1}{4}$ Shop Trainee (Metal Fabrication) *Four credits*

Trains in metal fabrication. Attendance at related class work of General Engineering 121 (one hour per week for eight weeks) required. Fee: \$5.00.

Offered spring semester.

17V $\frac{1}{4}$ Shop Trainee (Building Construction) *Four credits*

Trains in building construction. Attendance at related class work of General Engineering 121 (one hour per week for eight weeks) required. Fee: \$5.00.

Offered spring semester.

30V16 Laboratory Assistant *Sixteen credits*

Assists in the preparation of laboratory materials for engineering instruction.

Department of Building Construction and Design

(Symbol: BC)

The curriculum in Building Construction and Design is planned for the students who have chosen careers in general contracting, superintendence of building construction, or structural and architectural drafting and design.

The building program on campus provides an excellent opportunity for students to participate in actual construction work along with the theory and laboratory work in connection with their courses. Additional experience can be gained in mill and cabinet work at the University's furniture factory.

Students graduated from this department are well-equipped to meet the demands of the strongly competitive building construction industry.

Requirements for the Bachelor of Science (B.S.) degree, with major in Building Construction and Design

<i>Courses</i>	<i>Semester Hours</i>
Art 113	3
Bible and religious education	16
English—including 113a,b and 6 hours literature or speech	12
Social Studies—including Psychology 113, 6 hours history, 3 hours economics	12
Chemistry 113a,b	6
Mathematics—including 213 and 223	15
Physics 213, 223, 323	9
General engineering 111, 112, 121, 333, 343, 353, 433	16
Mechanical engineering 302	2
Building construction and design 122, 213, 223, 233, 243, 313, 323, 333, 382, 392, 413, 423, 433	36
Electives	9
Total	136
<i>Vocational Training Units</i>	<i>V-Credits</i>
GE 10V8, 15V8	16
ME 30V16	16
BC 20V16, 21V16, 30V8, 31V8, 41V16	64
Electives	24
Total	120

Requirements for minor in Building Construction and Design

A. With emphasis on *Construction*

<i>Courses</i>	<i>Semester Hours</i>
Mathematics 113, 123	6
Physics 213, 223	6
General engineering 111, 121	2
Mechanical engineering 302	2
Building construction and design 122, 213, 223, 233, 313, 382, 433	19
Total	35
<i>Vocational Training Units</i>	<i>V-Credits</i>
GE 10V8, 15V8	16
BC 20V8, 21V8	16
Total	32

B. With emphasis on *Design*

<i>Courses</i>	<i>Semester Hours</i>
Art 113	3
Mathematics 113, 123	6
Physics 213, 223	6
Building construction and design 122, 213, 223, 233, 243, 323, 382	19
Total	34

<i>Vocational Training Units</i>	<i>V-Credits</i>
BC 10V8, 20V8, 30V8, 31V8	32

Descriptions of Courses

- 122 Architectural Drawing* *Two hours*
 This course deals with architectural lettering, detail drawing, and preliminary design sketches. One hour lecture-discussion and three hours laboratory per week. Fee: \$2.00 Mr. Willis
 Offered spring semester.
- 213 Materials of Construction* *Three hours*
 A comprehensive study of the properties, manufacture, and uses of building construction materials. Mr. Willis
 Offered fall semester (odd-numbered years).
- 223 Building Construction I* *Three hours*
 A study of the fundamentals of wood and masonry construction as used in residential and light commercial buildings. Elementary structural analysis is emphasized. Two hours lecture-discussion and two hours laboratory per week. Fee: \$1.00. Mr. Willis
 Offered fall semester (odd-numbered years).
- 233 Building Construction II* *Three hours*
 A study of materials, methods, and structural systems used in industrial and architectural construction. Ability in choosing appropriate systems of construction is a prime objective of the course. Two hours lecture-discussion and two hours laboratory per week. Fee: \$1.00. Mr. Willis
 Offered spring semester (even-numbered years).
- 243 Architectural Analysis* *Three hours*
 A study of architectural development to our present period, with special emphasis upon an analytical insight into the problems of modern design and the possible directions of future development. Mr. Willis
 Offered spring semester (even-numbered years).
- 313 Cabinetmaking* *Three hours*
 This course is planned to supplement courses in architectural design by giving practice in design and detailing, followed by actual construction in the shop of cabinetwork, millwork, or furniture as used in building construction. New materials, methods, and design are emphasized. One hour lecture-discussion and four hours laboratory per week. Fee: \$2.00. Mr. Willis
 Offered fall semester (odd-numbered years).
- 323 Architectural Design* *Three hours*
 The design, development, and presentation of an elementary architectural program as employed for a residence or small commercial building. Working drawings are required for each project. Nine hours

laboratory per week. Prerequisites: 122, 213 223, 233, 243. Corequisite: 382. Fee: \$3.00. Mr. Willis

Offered fall semester (even-numbered years).

333 Architectural Design

Three hours

A continuation of 323, with more advanced problems as encountered in programs for commercial buildings, churches, or large residences. Working drawings, including mechanical and electrical plans, are required. Nine hours laboratory per week. Prerequisite: 323. Corequisite: 392. Fee: \$3.00

Offered spring semester (odd-numbered years).

382 Mechanical Equipment of Buildings

Three hours

A study of the principles of plumbing, heating, ventilating, and air conditioning, accompanied by practical problems. Prerequisite: Phys 223, General Physics.

Mr. Willis

Offered fall semester (even-numbered years).

392 Electrical Equipment of Buildings

Two hours

A study of lighting principles, illumination calculations, interior lighting, industrial lighting, heating, air conditioning, and ventilating controls, accompanied by design problems of a practical nature. Prerequisite: Phys 223, General Physics.

Mr. Willis

Offered spring semester (odd-numbered years).

413 Structural Design, Wood and Steel

Three hours

This course is a study of the design of structural elements used in building construction. Practical application of principles of statics, strength of materials, and methods of construction are emphasized. Two hours lecture-discussion and three hours laboratory per week. Prerequisites: GE 343, Statics; GE 353, Strength of Materials. Fee: \$2.00.

Mr. Willis

Offered fall semester.

423 Structural Design, Concrete

Three hours

A study of the design of reinforced concrete in structures. Practice in detailing is included. Two hours lecture-discussion and three hours laboratory per week. Prerequisites: GE 343, Statics; GE 353, Strength of Materials. Fee: \$2.00.

Mr. Willis

Offered spring semester.

433 Costs and Estimating

Three hours

A detailed study of practices, methods, and costs of construction, with problems in estimating from blueprints and specifications. Two hours lecture-discussion and three hours laboratory per week. Fee: \$2.00.

Offered fall semester (even-numbered years).

Descriptions of Vocational Training Units

10V8 Draftsman

Eight credits

Makes architectural and mechanical drawings including tracing

and operation of reproducing equipment. Individual projects. May be repeated to a maximum of sixteen credits.

20V8, 16 Construction worker *Eight or sixteen credits*

Performs work on various types of construction projects. Overall understanding of job conditions emphasized. May be repeated to a maximum of thirty-two credits.

30V8, 16 Cabinetmaker *Eight or sixteen credits*

Performs the hand carpentry and machine operations necessary in building cabinets and furniture. Shop experience is obtained on individual and group projects.

31V8 16 Draftsman *Eight or sixteen credits*

Draws plans for architectural, mechanical, or structural projects consistent with his individual ability.

32V8, 16 Foreman *Eight or sixteen credits*

Supervises a small group of students, as shop or construction foreman, or in other supervisory responsibility.

41V16 Architectural Draftsman *Sixteen credits*

Performs duties of a designer in architectural and structural design, detailing, estimating, specifications-writing, and drafting. Individual assignments are made. May be repeated to a maximum of thirty-two credits.

Department of Electrical Engineering (Symbol: EE)

Electrical engineering courses at John Brown University are divided into two general areas: power and control; communication and electronics. Courses in the power and control field include electronic control, automatic control of mechanical and electrical devices, generation, transmission, and distribution of electrical power, and power system stability. Courses in the communication and electronic field include electronics, transistors, radio, television, and radar.

Vocational training assignments in the power and control field include motor rewinding, installation and service of electrical equipment, power plant operation and maintenance, power line installation and maintenance, problems in design and development of electrical equipment and systems. The University's power plant provides excellent opportunities for the student interested in this particular emphasis.

Vocational training assignments in the communication and electronics field include application of the recognized practices and methods of wiring and equipment maintenance, broadcasting, equipment construction and testing, standard and frequency modulation transmitter operation, remote control experience, and tape, wire, and disc recording. Students are encouraged to qualify for various Federal Communications Commission licenses necessary for employment in the many fields of visual and aural broadcasting; a first class operator's license is necessary to the completion of the required vocational training experience.

A major function of the Department of Electrical Engineering at John Brown University is to teach fundamental electrical engineering theory and theoretical analysis of the circuits so thoroughly that students acquire facility in the solution of problems encountered in design, research, and development. The opportunity to demonstrate and apply these principles in a most effective and economical manner is provided in the laboratory, in the vocational training assignments, and in the design courses.

Requirements for the Bachelor of Science (B.S.) degree with major in Electrical Engineering

<i>Courses</i>	<i>Semester Hours</i>
Bible and religious education	16
English—including 113a,b and 6 hours literature or speech	12
Social Studies—recommended: Psychology 113, 6 hours history, and 3 hours economics	12
Chemistry 113a,b	6
Mathematics—including 313 and 413	21
Physics 213, 223, 323	9
Mechanical engineering 132, 313, 353	8
General engineering 111, 112, 121, 333, 343, 353, 433	16
Electrical engineering 216, 226, 323a,b, 413a,b; election: (for power and control option) of 313, 333, 423, 443; or (for com- munication and electronics option) of 353a,b; 463, 473	36
Total	136

<i>Vocational Training Units (Power Option)</i>	<i>V-Credits</i>
GE 10V8, 15V8	16
EE 10V8, 21V8, 22V8	24
EE 30V8, 16	8 or 16
EE 32V16, 40V16, 42V16	48
Electives	16 or 24
Total	120

<i>Vocational Training Units (Communication Option)</i>	<i>V-Credits</i>
GE 10V8, 15V8	16
EE 10V8, 21V8, 22V8	24
EE 31V8, 16	8 or 16
EE 33V16, 41V16, 43V16	48
Electives	16 or 24
Total	120

Descriptions of Courses

212 Electrical Engineering I *Two hours*

A survey course for non-electrical engineers. An introduction to the analysis of direct current and alternating current circuits. Charac-

teristics of direct current machinery. Prerequisites: Math 113, College Algebra; Math 123, Plane Trigonometry. Mr. Menzies

Offered fall semester.

216 Basic Circuit Theory *Six hours*

A study of basic circuit elements and circuit theory including resistance, inductance, capacitance, magnetic circuits, vacuum and gas tubes, and related circuits. Five hours lecture-discussion and one two-hour laboratory period per week. Prerequisite or corequisite: Math 213, Calculus I. Fee: \$5.00. Mr. Menzies

Offered fall semester.

222 Electrical Engineering II *Two hours*

A continuation of 212. Theory and operating characteristics of alternating current machinery and electronic devices, and their application to communication and industry. Prerequisite: 212. Mr. Menzies

Offered spring semester.

226 Basic Machine Theory *Six hours*

A continuation of 216. Study of three-phase circuits, direct and alternating current motors and generators, control equipment, power distribution, and transistors. Five hours lecture-discussion and one two-hour laboratory period per week. Prerequisite: 216. Prerequisite or corequisite: Math 223, Calculus II. Fee: \$5.00. Mr. Menzies

Offered spring semester.

313 Transmission and Distribution *Three hours*

A study of power and telephone transmission and distribution circuits, including control and protection. Prerequisite: 226. Mr. Smith

Offered fall semester.

323a,b Electrical Communication *Each course, three hours*

A study of transmission lines, filters, and networks, including all frequencies. Prerequisite: 226. Mr. Menzies

323a offered fall semester; 323b offered spring semester.

333 Advanced Control Engineering *Three hours*

A study of magnetic and electronic control of generators and motors. Three hours lecture-discussion and one two-hour laboratory period per week. Prerequisite: 226. Mr. Menzies

Offered fall semester.

353a,b Radio Engineering *Each course, three hours*

A comprehensive study of electron tube theory and circuits in radio communication and industry. Wide band amplifiers, antennas, and theory of reception and transmission of radio waves. Prerequisite or corequisite: 323a,b. Mr. Smith

353a offered fall semester; 353b offered spring semester.

413a,b Advanced Electrical Circuits *Each course, three hours*

A comprehensive study of transient response of electrical circuits, with emphasis on operational solution of complex systems. Prere-

quisite: 226; Math 413, Differential Equations. Mr. Smith
413a offered fall semester; 413b offered spring semester.

423 Power System Stability *Three hours*

A study of stability of power systems under steady state and transient conditions. Prerequisite: 313b, or consent of instructor.
Mr. Menzies

Offered spring semester.

443 Feedback and Servo-Mechanisms *Three hours*

A study of feedback control systems and servo-mechanisms, and their design. Prerequisite: 313b, or consent of instructor. Mr. Menzies
Offered spring semester.

463 Ultra High Frequency Communication *Three hours*

A study of transmission, reception, and control of ultra high frequency waves. Two hours lecture-discussion and one two-hour laboratory period per week. Prerequisite: 323b, or consent of instructor. Fee: \$3.00.
Mr. Smith

Offered fall semester.

473 Television Engineering *Three hours*

A study of the special problem of television transmission and reception. Two hours lecture-discussion and one two-hour laboratory period per week. Prerequisite: 323b. or consent of instructor. Fee: \$3.00.
Mr. Smith

Offered spring semester.

Descriptions of Vocational Training Units

10V8 Electric Shop Trainee *Eight credits*

Trains in construction of electric circuits with emphasis on personnel safety, proper use of measuring equipment, electrical connections, soldering and insulation methods, housewiring, transformer re-winding, and electric motor repair. May be repeated to a maximum of sixteen credits.

20V8 General Electrician *Eight credits*

Maintains existing wiring and installs new wiring in houses and commercial buildings. Prerequisite or corequisite: EE 212 or EE 216.

21V8 Power Lineman *Eight credits*

Erects power lines, maintains high line power distribution systems, makes transformer installations and connections.

22V8 Radio Technician *Eight credits*

Designs and constructs radio, audio amplifiers, uses electronic test equipment. Prerequisite or corequisite: EE 216. May be repeated to a maximum of sixteen credits.

30V8, 16 Electrician, Machinery *Eight or sixteen credits*

Repairs, tests, and installs heavy duty electrical machinery; as-

sist instructors in laboratory setups for freshman and sophomore groups.
Prerequisite: EE 226.

31V8, 16 General Electronic Laboratory Assistant

Eight or sixteen credits

Maintains and installs electronic equipment. Assists instructor in laboratory setup. Constructs audio amplifiers, electronic control systems, television, and other electronic equipment.. Prerequisite or corequisite: EE 323a.

32V16 Power Plant Operator

Sixteen credits

Maintains and operates power plant and associated equipment.
Prerequisite: EE 226.

33V16 Radio Operator

Sixteen credits

Operates transmitter and learns the technical side of AM and FM broadcast station operation.

40V16 Electrical Designer

Sixteen credits

Designs electrical installations for new construction; assists in laboratory and vocational supervision. Prerequisite: EE 226. Corequisite: EE 413a.

41V16 Laboratory and Vocational Assistant

Sixteen credits

Directs design and installation of electronic equipment associated with radio and television. Prerequisites: EE 323b; EE 353b.

42V16 Special Projects and Research Engineer

Sixteen credits

Continuation of 40V16, with emphasis on library work. Corequisite: EE 434.

43V16 Developmental Research Engineer

Sixteen credits

Continuation of 41V16, with emphasis on research on advanced subjects or designs. Prerequisite: EE 353b. Corequisite: EE 463.

Department of Mechanical Engineering (Symbol: ME)

The curriculum in the Mechanical Engineering Department is designed to develop men who are competent to practice on a professional plane. Opportunity is provided, through the selection of design and analysis courses, to receive training in specialized fields. Through the vocational training program, a student is given a background of experience in the application of engineering.

For experience in these fields, the University maintains three departments: the power plant, where students experience full commercial plant operation; the design department, where the design and drafting for the University building and maintenance program is done; and the production department, where the student receives experience in problems pertaining to actual manufacturing.

Requirements for the Bachelor of Science (B.S.) degree with major in Mechanical Engineering

<i>Courses</i>	<i>Semester Hours</i>
Bible and religious education	16
English—including 113a,b and 6 hours literature or speech	12
Social Studies—recommended: Psychology 113, 6 hours history, and 3 hours economics	12
Chemistry 113a,b, 413	9
Mathematics—including 313	18
Physics 213, 223, 323	9
General engineering 111, 112, 121, 333, 343, 353, 433	16
Mechanical engineering 132, 302, 313, 353, 363, 373, 422, 432, 491; 4 hours shop courses selected from 242, 252, 272; 10 hours design and analysis selected from 413, 423, 442a,b, 443a,b, 453, 463; 2 hours electives	37
Electrical engineering 212, 222, or equivalent	4
Electives	3
Total	136

<i>Vocational Training Units</i>	<i>V-Credits</i>
GE 10V8, 15V8	16
ME 10V8 and/or 22V8, 16	8 or 16
ME 12V8 and/or 23V8, 16	8 or 16
ME 32V16, 40V16, 41V16	48
ME electives to total 96	0 to 16
Electives	24
Total	120

Descriptions of Courses

132 Engineering Drawing and Descriptive Geometry *Two hours*
Includes developments, detail and assembly working drawings, and training in making tracings and blueprints. Problems on points, lines, planes, and surfaces. Application to engineering problems. Both group and individual instruction. One hour lecture-discussion and three hours laboratory per week. Prerequisite: GE 112, or equivalent. Fee: \$2.00. Mr. Dearborn

Offered spring semester; summer upon sufficient request.

242 Machine Shop and Production Methods *Two hours*
This course includes both class and laboratory shopwork on lathes, millers, shapers, drill presses, grinders, etc. A study of operations and techniques necessary in machine shop work. One hour lecture-discussion and three hours laboratory per week. Fee: \$5.00 Mr. Brammer

Offered fall semester.

252 Welding and Production Methods *Two hours*
A course designed to present the fundamental principles of oxy-

acetylene and electric-arc welding. Training involves handling of equipment, and the techniques in welding, brazing, and silver soldering a variety of materials. One hour lecture-discussion and three hours laboratory per week. Fee: \$15.00. Mr. Brammer

Offered spring semester.

272 Principles of Automotive Engineering *Two hours*

A study of the theories of operation, and the testing and adjusting of the different units of the automobile, and the use of modern test and repair of equipment in automobile maintenance. One hour lecture-discussion and three hours laboratory per week. Fee: \$5.00.

Mr. Brammer

Offered fall semester.

302 Plane Surveying *Two hours*

A general course in elementary surveying including the study, care, and use of instruments. One hour lecture-discussion and one three-hour field period per week. Prerequisite: Math 123, Plane Trigonometry. Fee: \$3.00.

Mr. Olney

Offered fall semester.

313 Elementary Thermodynamics *Two hours*

A study of the laws of thermodynamics as they apply to vapors and gases; also nonflow and flow processes, properties of gases and vapors, availability of energy, steam cycles, and their application to engines and turbines. Prerequisites: Math 223, Calculus II; Phys 223, General Physics.

Mr. Olney

Offered fall semester.

353 Hydraulics *Three hours*

A study of the principles of hydrostatic pressure involving pressure on surfaces, immersed and floating bodies, and relative equilibrium of liquids; the principles of hydrokinetics, involving the flow in open channels; nonuniform flow in open channels; flow in pipes; the principles of hydrodynamics. Two hours lecture-discussion and one three-hour laboratory period per week. Prerequisites: Math 223, Calculus II; Phys 223, General Physics. Fee: \$5.00.

Mr. Olney

Offered fall semester.

363 Dynamics *Three hours*

This course covers kinematics and kinetics of particles and of rigid bodies; also work, energy, impulse, and momentum. Prerequisite: GE 343, Statics.

Mr. Dearborn

Offered fall semester.

373 Advanced Thermodynamics *Three hours*

A continuation of 313. Application of gas engines, cycles to internal combustion engines, air compression and air engines, gas turbines, refrigeration, and properties of air vapor mixtures. Two hours lecture-discussion and one two hour laboratory period per week. Prerequisite: 313 Fee: \$5.00.

Mr. Olney

Offered spring semester.

382 *Mechanical Equipment of Buildings* Two hours
 For description of course, see BC 382. Mr. Willis
 Offered fall semester (even-numbered years).

392 *Electrical Equipment of Buildings* Two hours
 For description of course, see BC 392. Mr. Willis
 Offered spring semester (odd-numbered years).

The following courses may be used as design and analysis electives:

413 *Structural Design, Wood and Steel* Three hours
 For description of course see BC 413. Mr. Willis
 Offered fall semester.

422 *Physical Metallurgy* Two hours
 An introductory course in the field of metallurgy, including the physical properties of metals, casting, hot and cold working processes, and the fundamentals of heat treatment. Mr. Dearborn
 Offered spring semester (even-numbered years).

423 *Structural Design, Concrete* Three hours
 For description of course, see BC 423. Mr. Willis
 Offered spring semester.

432 *Heat Flow* Two hours
 A study of heat transfer, including the analysis of problems in conduction, convection, and radiation, with particular attention to problems in power applications. Mr. Olney
 Offered spring semester (even-numbered years).

442a,b *Industrial Management* Two hours
 Organization and management of personnel, material, equipment, and records of the production shop; a study of unit cost and general estimating. Standard shop practice and time-study of jobs. Prerequisite: senior standing in engineering or permission of the department head. Mr. Olney
 Offered upon sufficient request.

443a,b *Machine Design* Each course, three hours
 This is an advanced course applying theory learned in drawing, strength of materials, and mechanics, to the designing of machine elements such as riveted joints, keys, couplings, clutches, belt and chain drives, pulleys, shafts, gears, cams, and bearings. One hour lecture-discussion and four hours laboratory per week. Prerequisites: 132; GE 353, Strength of Materials. Fee: \$3.00 each course. Mr. Dearborn

Offered upon sufficient request.

453 *Steam Power Plants* Three hours
 A course in which the principles and advanced analytical techniques of mechanics of solids and fluids, thermodynamics and heat transfer, are applied to modern power plants. Application of atomic energy

in the production of power is included. Case studies and research problems are used to develop the initiative of the student. Two hours lecture-discussion and three hours laboratory per week. Prerequisite: 373. Mr. Olney

Offered upon sufficient request.

463 Internal Combustion Engines *Three hours*

A course in which the principles and advanced analytical techniques of mechanics of solids and fluids, thermodynamics and heat transfer are applied to internal combustion engines. Case studies and research problems are used to develop insight with which to attack new situations. Two hours lecture-discussion and three hours laboratory per week. Prerequisite: 373. Mr. Olney

Offered upon sufficient request.

491 Seminar *One hour*

A course required of seniors in Mechanical Engineering, including the preparation of reports on analysis problems or projects. Problems and projects are subject to the approval of the department head.

Mr. Dearborn

Offered fall semester.

Descriptions of Vocational Training Units

10V8 Power Plant Operator *Eight credits*

Operates diesel and natural gas generating equipment and steam boilers under the supervision of experience operators.

11V8 Airport Operator *Eight credits*

Operates, maintains, and repairs small aircraft.

12V8 General Maintenance Serviceman *Eight credits*

Maintains general mechanical equipment.

13V8 Production Machine Operator *Eight credits*

Operates general manufacturing and production machines.

14V8 Auto Maintenance Man *Eight credits*

Performs general maintenance of automobiles, trucks, tractors, and other motive equipment.

20V16 Foreman *Sixteen credits*

Supervises a group of less advanced students in shop work, interprets blueprints, takes written or verbal orders, determines procedure of work, assigns duties and inspects work of students.

21V16 Shop Assistant *Sixteen credits*

Performs various duties such as making items of equipment, cleaning equipment, preparing shop equipment for demonstration, and checking student work.

22V8, 16 Power Plant Operator *Eight or sixteen credits*

Performs various duties associated with operation of diesel and

natural gas generating equipment and steam boilers, under the supervision of experienced operators.

23V8, 16 Maintenance Serviceman *Eight or sixteen credits*

Services and repairs mechanical equipment such as heating, air conditioning, plumbing, power plant, and other machinery.

24V8 Production Machine Operator *Eight credits*

Operates various metal-working machines such as lathes, shapers, milling machines, drill presses, etc. Prerequisite or corequisite: ME 242. Offered fall semester.

25V8 Combination Welder *Eight credits*

Operates both acetylene and arc welding equipment; welds on simple production type work on welding projects. Prerequisite or corequisite: ME 252.

Offered spring semester.

26V8 Automobile Mechanic *Eight credits*

Services and repairs automobiles and trucks; may overhaul engines, transmissions, clutches, differentials, and other assemblies of an automobile. Prerequisite or corequisite: ME 272.

Offered fall semester.

27V8, 16 Draftsman *Eight or sixteen credits*

Prepares complete and accurate working plans and detail drawings from rough or detailed sketches or notes; works in the areas of mechanics, plumbing, or heating.

30V8, 16 Surveying Instrument Man *Eight or sixteen credits*

Sets up and operates surveying instruments to secure data for construction, map-making, or other purposes. Corequisite: ME 302.

Offered fall semester.

31V8, 16 Laboratory Assistant *Eight or sixteen credits*

Performs various duties such as making equipment, cleaning and repairing equipment, preparing apparatus for experiments, and correcting student papers. Works in the area of mechanical engineering laboratory.

32V8, 16 Mechanical Designer *Eight or sixteen credits*

Designs mechanical engineering projects that arise in the areas of heating, air conditioning, plumbing, manufacturing, power plant, etc.

40V16 Senior Engineering Aide *Sixteen credits*

Performs responsible subprofessional engineering work in an office, the field, and related work as required; receives specific assignments of work from a professional engineer; supervises work of a few students of lower classification by assigning details and closely reviewing work performed. The work is subject to close check and individual assignment and to general review in routine work. Senior standing required. May be repeated to a maximum of thirty-two credits.

DIVISION OF NATURAL SCIENCE

*Cox, Dearborn, Filler, Frye, Olney, Stout, Whitmore,
I. Wills (chairman), Woodland*

The Division of Natural Science, consisting of the departments of agriculture, biology, chemistry, home economics, mathematics, and physics, is equipped to give students an excellent general knowledge of the indicated fields, and offers majors in biology, chemistry, general science, and home economics. Preparation for public school teaching of biology, chemistry, general science, mathematics, and home economics (non-vocational) also is provided. A minor field may be elected in any of the departments. The division desires especially to aid students preparing to become Christian citizens and professional men and women, and those preparing to enter full time Christian service on foreign mission fields as doctors, dentists, engineers, and nurses, in their pre-professional courses.

Pre-Medical Course

All Class-A medical schools require a minimum of three years of college work; most require a Bachelor of Arts or Bachelor of Science degree from an accredited college. The specific course requirements are variable; therefore it is necessary that the student be familiar with the requirements for admission in the medical school of his choice before entering upon his pre-medical course. Students should consult with the adviser at the time of registration for each semester concerning the courses to be taken. Only students who have made proper preparation will be recommended by this division. Also, arrangements should be made, if necessary, to take the Medical Aptitude Test at the appropriate time.

Medical schools emphasize the desirability of securing a strong liberal arts or general education background. The typical pattern of specific requirements can be met most readily by taking a major in chemistry or in general science with a minor in biology.

Suggested Minimum Program for Pre-Medical Work

<i>Courses</i>	<i>Semester Hours</i>
Bible and religious education	12
English 113a,b	6
Mathematics 103 or 113, and 123 or equivalent	6
Modern foreign language (French or German preferred)—two years of college work, or equivalent, in one language	12
Social Studies—including Psychology 113; 6 hours elected from economics, history, sociology	9
Vocational subjects—selected from designated vocational course sequences*, with approval of major adviser	usually 8-12
Biology—including 314 and 324	16-18

* See "Approved Vocational Course Sequences," page 39.

Chemistry—including 214b and 333b	20
Physics—including 323	9
Total (with electives)	93-98

Vocational Training Units

V-Credits

A minimum of 30 credits in vocational training units selected from one of the departments of biology or chemistry and a minimum of 15 credits from the other department as approved by adviser

45

Electives—selected according to vocational objective, with approval of major adviser

45

Total

90

Other Pre-professional Courses

Any student wishing to become a dentist, veterinarian, nurse, or medical technician should select a particular professional school or hospital, and consult with the adviser for the arranging of a schedule to fulfill specific requirements. In general terms, the full four-year program leading to a bachelor's degree provides the most suitable pre-professional training; however, some schools of dentistry and of medical technology require a minimum of three years of college work, and preparation for nurses' training may be completed in one year. Since courses in science are specified, a major in biology, chemistry, or general science may serve to fulfill requirements.

Department of General Science (Symbol: Sci) Requirements for the Bachelor of Arts (B.A.) degree with major in General Science

<i>Courses</i>	<i>Semester Hours</i>
Art and/or music—Art or Music 232, 242 suggested	4
Bible and religious education	16
English—including 113a,b	12
Mathematics 103 or 113; 123 or equivalent	6
Modern foreign language (French or German preferred)—two years of college work in one language or the equivalent	12
Social Studies—including Psychology 113; 12 hours selected from economics, geography, history, political science, sociology, as advised.	15
Vocational subjects—selected from designated vocational course sequences*, with approval of major adviser... usually 8-12	
Science—including 18 hours in one department (biology, chemistry, or physics) and 9 hours in each of the other two departments, and including 12 hours of courses of junior-senior standing	36

* See "Approved Vocational Course Sequences," page 39.

JOHN BROWN UNIVERSITY BULLETIN

Electives—including any courses needed to complete a minor
of 18 hours of which 6 hours are of junior-senior standing ____ 11-15

Total 124

Vocational Training Units

V-Credits

A minimum of 30 credits in vocational training units selected
from one of the departments of biology, chemistry, and
physics; and a minimum of 15 credits in vocational training
units from each of the other two departments, as approved
by the adviser. 60

Electives—selected according to vocational objective, upon
approval of major adviser 60

Total 120

Requirements for minor in General Science

Courses

A total of 18 hours taken in two of the departments of biology, chemistry, and physics, including 6 hours of courses of junior-senior level, constitutes a minor in general science.

Vocational Training Units

A sequence of units totaling 30 credits, which must be approved by the adviser in the minor field.

Requirements for Public School Teaching in General Science

See Department of Education for curriculum details.

Descriptions of Courses

113a,b Physical Science

Each course, three hours

The material of these courses deals with selected and coherent topics in the sciences of astronomy, geology, physics, and chemistry. An evaluation of the scientific method, and the contributions of the theories and facts of science to all branches of civilization are emphasized. The first semester covers the general fields of astronomy and geology; the second semester is devoted to chemistry and physics. The course is non-technical for students not majoring in physical science nor in engineering. While there are no prerequisites for this course, a knowledge of the fundamental operations of arithmetic, or Math 153, Introductory Mathematics, is strongly recommended. Two lecture-discussion periods and one two-hour laboratory period per week. The latter includes both demonstration and individual work. Laboratory fee: \$4.00, each course. Mr. Frye

113a offered fall semester; 113b offered spring semester.

123a,b Biological Science

Each course, three hours

For description of course, see Biology 123a,b. Laboratory fee: \$4.00. Mr. Wills

203 *Conservation Through Nature Study*

Three hours

This course is designed to acquaint prospective elementary teachers with the factors of our environment and the necessity for maintenance of proper balance of these factors. This is done with consideration of the manner in which conservation may be taught to children of the elementary grades by acquaintance with the natural objects of interest in their lives and surroundings. A portion of the course is devoted to the manner in which the materials of the bulletin, "Nature Study and Conservation—Suggested Instructional Units, Bulletin XI of the Arkansas Cooperative Program to Improve Instruction," may be used in the classroom. Numerous supplementary books, charts, films, and specimens are used in the course. Two hours lecture-discussion and two hours laboratory or field work per week.

Mr. Wills

Offered spring semester; summer session upon sufficient request.

Department of Agriculture (Symbol: Agri)

The courses in agriculture are designed to furnish a minor to the student who may be majoring in any one of the following subjects: Bible, business, biology, chemistry, or the social studies. The courses offered will also lead to further study in agriculture for teaching, general farming, or research.

The course of study in the classroom and laboratory accompanies the usual daily vocational training on and about the university farms.

The facilities of the university for teaching and vocational training in agriculture are in part: the university farms of agronomy land, dairying, beef production, poultry, and hogs. The farm animals consist of registered Jersey and Hereford herds with dairy and beef barns; hogs; purebred poultry of layer breeds, with laying and brooder houses and equipment. A milk room, dairy laboratory, and small general laboratory are provided for testing milk, seed, and soils testing, and for any related agriculture work.

Requirements for minor in Agriculture

Courses

Semester Hours

Agriculture—including 123, 213, 353, 453; 153 recommended ____ 18
Additional courses recommended—Biol 123a,b; Chem 113a,b,
234; GE 111.

Vocational Training Units

V-Credits

GE 10V8 or GE 11V4 and 12V4 _____	8
Agri 10V, 11V, or 12V _____	8
Agri 13V, 14V, or 21V _____	8
Agri 31V _____	12
Total _____	36

Descriptions of Courses

123 *Field Crops*

Three hours

A study of the characteristics, adaptation, culture, uses, seed, and

harvesting of field crops. Two hours lecture-discussion and one two-hour laboratory or field period per week. Mr. Stout
Offered fall semester (odd-numbered years).

133 Farm Poultry *Three hours*
A study of the principles of poultry production and their application to the farm. Two hours lecture-discussion and one three-hour laboratory or field period per week. Mr. Stout
Offered spring semester (even-numbered years).

143 Vegetable Gardening *Three hours*
A course dealing with the production of vegetables for the home or market, the construction of hotbeds and cold frames, and preservation and marketing of vegetables. Two hours lecture-discussion and one three-hour laboratory or field period per week. Mr. Stout
Offered spring semester (odd-numbered years).

153 Farm Machinery *Three hours*
A study in care and handling of farm tools and power equipment for general farming needs as to proper storage, operation, adjustments, and repair. Two hours lecture-discussion and one two-hour laboratory period per week. Prerequisite: GE 111, Engineering and Shop Orientation. Laboratory fee: \$1.50. Mr. Stout
Offered spring semester.

213 Introductory Animal Husbandry *Three hours*
A study of breeds, market types, classes, and grades of cattle, hogs, sheep, and horses. Two hours lecture-discussion and one two-hour laboratory or field period per week. Mr. Stout
Offered fall semester (even-numbered years).

223 Breeds of Livestock *Three hours*
A study of the history, development, and types of the breeds of livestock—with emphasis on present day breeds. Two hours lecture-discussion and one three-hour field period per week. Mr. Stout
Offered spring semester 1959.

353 Soils *Three hours*
A study of the origin, composition, and classification of soils, and of their physical, chemical, and biological properties. Two hours lecture-discussion and one two-hour laboratory period per week. Prerequisite: 123; Chem 113a,b, General Chemistry. Laboratory fee: \$3.00 Mr. Stout
Offered fall semester (odd-numbered years).

383 Beef Cattle Production *Three hours*
Methods of producing and marketing beef cattle, and of feeding, management, and marketing of breeding and stock cattle. Two hours lecture-discussion and one two-hour laboratory period per week. Prerequisite: 213. Mr. Stout
Offered spring (odd-numbered years).

393 Dairy Management

Three hours

A study of the care, feeding, and breeding of dairy cattle; the marketing of dairy products; the processing of dairy products; the use of milk as food and feed; economic returns from dairy farming. Two hours lecture-discussion and one two-hour laboratory period per week. Prerequisite: 213.

Mr. Stout

Offered spring semester (even-numbered years).

453 Farm Management

Three hours

The business aspects of farming; economic factors affecting farm success, with emphasis on getting established in farming. The farm business analysis from the standpoints of both farm and individual enterprises. Making a complete farm plan, keeping farm records and analysis of the farm. Prerequisite: 12 or more hours in courses in agriculture.

Mr. Stout

Offered fall semester (odd-numbered years).

463 Animal Nutrition

Three hours

A study of the principles of nutrition; utilization of feeds; preparation of feeds; feeding standards, growth, reproduction, and fattening of animals; measuring the usefulness and utilization of feeds. Prerequisites: 213 Chem 113a,b, General Chemistry.

Mr. Stout

Offered fall semester (even-numbered years).

473 Feeding Farm Animals

Three hours

A study of feeds and feeding methods; the chemistry of feeds; production and harvesting of feeds; utilization and improvement of feeds; the feeding of different kinds of live stock. Prerequisites: 213 and 463.

Mr. Stout

Offered fall (even-numbered years).

Descriptions of Vocational Training Units

10V4, 8, 12 Harvest Hand (grain)

Four, eight, or twelve credits

Uses various types of harvesting machinery. Stores crops. Studies the stages of development of crops for best results in harvesting.

11V4, 8 Silo Filler

Four or eight credits

Works with field chopper and silo filler. Does all the tasks that are involved in the making of good silage, from the chopping to the covering in the silo.

12V8, 12, 16 Agriculturist (crop production)

Eight, twelve, or sixteen credits

Operates tractor and various implements. Prepares seed bed, selects seed, determines the planting rate and method of seeding. Tills and fertilizes the crop. Studies the methods and time of application of fertilizers.

13V8, 12, 16 Milking-machine Operator and Hand Milker

Eight, twelve, or sixteen credits

Does hand milking; operates milking machine; cares for ma-

chines and learns correct operation of same. Uses all approved methods in production of grade A milk from milking to delivering to processing plant.

14V4, 8, 12 Calf Raiser *Four, eight, or twelve credits*

Feeds and cares for calves including feeding, tattooing, registering, and training of horns.

20V4, 8 Farm Mechanic *Four or eight credits*

Repairs tractors and other farm machinery. Constructs and repairs barns, sheds, pens, coops, silos, fences, gates, bridges, culverts, and other farm structures. Becomes skilled in using many types of tools, both hand and power.

21V4, 8, 12, 16 Dairyman *Four, eight, twelve or sixteen credits*

Studies the breeding, nutrition, and management of dairy cattle to improve the quality and quantity of milk they produce; keeps accurate breeding and production records. Supervises pasture management as to grazing methods, pasture rotation, supplying night pasture, reseeding, mowing and spraying to control weeds.

30V4, 8, 12 Livestock Feeder and Showman *Four, eight, or twelve credits*

Selects animals to be shown; prepares suitable stables for fitting; makes blankets and halters. Figures rations suitable for fitting and conditioning animals for showing. Trains and grooms animals for showing.

31V4, 8, 12, 16, 20 Farm Manager *Four, eight, twelve, sixteen or twenty credits*

Practices all work that is necessary in the supervision and management of a farm including the keeping of records and accounts. Special attention given to management of dairy farms, beef cattle farms, and poultry farms.

Department of Biology (Symbol: Biol)

The Department of Biology offers courses and vocational training to give the student a wide general knowledge of the principles of biology and a familiarity with the current problems in various areas of study and interest. The philosophy of the department is that of a Christian interpretation of the facts and theories of life processes emphasizing the harmony of these with the scriptures of the Bible. The department is well equipped and has the best of classroom and laboratory facilities in the modern and new Science Hall.

Majors in biology may look forward to careers as teachers, professional men and women, research in the fields of agriculture, biochemistry, biology, foods, and pharmacy; and graduate work in bacteriology and zoology with additional careers in government service. A student majoring in biology and minoring in agriculture and chemistry finds many opportunities for positions in agricultural research,

dairying, and bacteriological work. The biology department in cooperation with the chemistry department offers course work and vocational experiences which give preprofessional training to students interested in dentistry, medicine, medical laboratory technology, nursing, and veterinary medicine.

The Department of Biology is a certified laboratory of the Arkansas State Health Department for the bacteriological examination of milk. This work and the bacteriological examination of water provides excellent training opportunities.

Requirements for the Bachelor of Arts (B.A.) degree with major in Biology

<i>Courses</i>	<i>Semester Hours</i>
Art and/or music—Art or music 232, 242 recommended	4
Bible and religious education	16
English—including 113a,b	12
Mathematics 103 or 113; 123 or equivalent	6
Modern foreign language (French or German preferred)—two years of one language in college work, or equivalent	12
Social Studies—including Psychology 113; 12 hours elected from economics, geography, history, political science, sociology (History 113, 123, and Sociology 313 recommended)	15
Vocational subjects—selected from designated vocational course sequences*, with approval of major adviser	usually 8-12
Chemistry—including 113a,b; 214a; 234 or 333a,b; 214b if chemistry is taken as a minor	14-20
Biology—including 123a,b; 212a,b or 222a,b; 333; 343; with a total of 12 hours of junior-senior standing	30
Electives—to complete a minor of 18 hours, of which 6 hours must be of junior-senior standing; agriculture or chemistry is strongly urged; other possible fields are Bible and religion, English, or Social Studies; additional hours are required to complete a minor in education or mathematics	0-10
Total	124

<i>Vocational Training Units</i>	<i>V-Credits</i>
Biol 10V8, 11V8, 22V8; electives, including 30 credits of junior-senior standing	60
Chemistry—11V4; 12V8 or 20V8 recommended	15
Electives—agriculture, business, education, engineering division, home economics, physics, or additional units in biology or chemistry is recommended, as approved by major adviser	45
Total	120

* See "Approved Vocational Course Sequences," page 39.

Requirements for minor in Biology

Courses

Semester Hours

Biology—including 113a,b, 343 and 3 additional hours of junior-senior standing 18

Vocational Training Units

A sequence of units totaling 30 credits, which must be approved by the adviser in the minor field.

Requirements for Public School Teaching in Biology

See Department of Education for curriculum details.

Descriptions of Courses

123a,b Biological Science

Each course, three hours

An introductory course considering the fundamental principles and characteristics of living organisms, both plant and animal. During the first semester the student becomes familiar with the various kinds of plants and animals and their structures and habits. The value of the scientific method in every day life is emphasized. The second semester deals with the biology of vertebrate organisms, particularly the human, with emphasis upon nutrition, growth, and development. An introductory study of the principles of heredity, problems of organic evolution and conservation are included. Two hours lecture-discussion and one two-hour laboratory or field period per week. Laboratory fee: \$4.00 each course. Locker deposit: \$1.00 Mr. Wills

123a offered fall semester; 123b offered spring semester. Offered summer upon sufficient request.

212a,b Botany Supplement

Each course, two hours

This course is designed for those wishing a technical knowledge of botany, and with general biology, which it is arranged to accompany, it is equivalent to a year's course in general botany. The general morphology and physiology of plants is studied in the classroom and laboratory during the first semester. During the second semester a study of the representatives of the plant kingdom is made as to structure, life cycle, and habitat. One hour discussion of assigned references and two two-hour laboratory periods per week. Prerequisites or corequisites: 123a,b; and Chem 113a,b, General Chemistry. Laboratory fee: \$2.00 each course. Locker deposit \$1.00. Mr. Wills

212a offered fall semester (odd-numbered years); 212b offered spring semester (even-numbered years).

222a,b Zoology Supplement

Each course, two hours

This course is designed to accompany or follow 123a,b, by combination with which the equivalent of a year's work in general zoology is accomplished. During the first semester a detailed study of the systems of the frog is made, along with the principles of physiology, histology, embryology, and ecology, using the frog as a type animal. The second semester's work consists of a study in the classroom and laboratory of representatives of principal phyla of the animal kingdom.

Attention is given to typical structure, function of special organs, and means of identification and classification of the animals studied. Pre-requisite or corequisites: 123a,b; and Chem 113a,b, General Chemistry; or equivalent. Laboratory fee: \$4.00 each course. Locker deposit \$1.00.

Mr. Wills

222a offered fall semester (even-numbered years); 222b offered spring semester (odd-numbered years).

312 or 3 Field Biology

Each course, two or three hours

The work of this course varies according to the interest of the student and instructor. Classification of plant and animal groups may be studied with emphasis on rules of taxonomy. A study of ecology or entomology or similar subjects may be pursued. This course may be repeated for credit until a total of twelve semester hours credit has been earned. One hour conference-discussion and three hours field and laboratory work per week for each additional semester hour of credit. Prerequisites: 123a,b; 212a,b or 222a,b. Laboratory fee \$2.00 either course

Mr. Wills

Offered spring semester; summer session upon sufficient request.

314 Comparative Anatomy of Vertebrates

Four hours

A comparative study of the structure of each system in the various classes of vertebrates with a thorough dissection of the systems in the cat, pigeon, turtle, necturus, and dogfish in the laboratory. Two hours lecture-discussion and two two-hour laboratory periods per week. Prerequisite: 222a,b, or equivalent. Laboratory fee: \$6.00. Locker deposit \$1.00.

Mr. Wills

Offered fall semester upon sufficient request.

324 Vertebrate Embryology

Four hours

A study of the principles and methods of development of vertebrate animals with a study of the embryology of the frog, chicken, and pig in the laboratory. Two hours lecture-discussion and two two-hour laboratory periods per week. Prerequisites: 222a,b, or equivalent; 314 desirable but not required.

Mr. Wills

Offered spring semester upon sufficient request.

333 Genetics

Three hours

A study of the principles of heredity as derived from biological materials, involving consideration of the problems of human inheritance or eugenics. Utilizes problems, reports or projects, demonstrations, and laboratory work. Two hours lecture-discussion and one two-hour laboratory period per week. Prerequisites: junior-senior standing and consent of instructor; 123a,b strongly recommended. Laboratory fee: \$3.00. Locker deposit: \$1.00.

Mr. Wills

Offered fall semester.

343 Biological Philosophy

Three hours

The course consists of discussions, reference readings, and special reports. The history of various biological theories along with the evidences for and against these theories will be considered. The theories

discussed will be spontaneous generation of life, biogenesis, theory of evolution, cell theory, organismic theory and various others. The Christian viewpoint concerning these theories will be emphasized. Also a consideration of the Biblical account of creation in opposition to the evolutionary viewpoint will be given. Prerequisites: junior-senior standing and consent of the instructor; 123a,b is strongly recommended.

Mr. Wills

Offered spring semester.

354 General Bacteriology

Four hours

A study of the history of bacteriology, the structure, function, and classification of bacteria. The relation of bacteria to home, agriculture, hygiene, sanitation, and disease is emphasized. The laboratory work will consist of mastering techniques for pure cultures, isolation, sterilization, and examination of water, milk, food, soil, and sewage for bacteria. Two hours lecture-discussion and two two-hour laboratory periods per week. Prerequisite: Chem 113a,b, General Chemistry. Laboratory fee: \$4.00. Breakage deposit: \$5.00.

Mr. Wills

Offered fall semester (odd-numbered years).

373 Dairy Bacteriology

Three hours

A study of the bacteriology of milk, milk products, and diseases borne by milk and milk products. One hour lecture-discussion and two two-hour laboratory periods per week. Prerequisite: 354. Laboratory fee: \$4.00. Breakage deposit: \$5.00.

Mr. Wills

Offered upon sufficient request.

Descriptions of Vocational Training Units

10V4, 8, 12, 16 Biological Aide *Four, eight, twelve, or sixteen credits*

Does routine work necessary in the care of the laboratory such as care, maintenance, cleaning, sterilizing and storing glassware and equipment. May be repeated to a maximum of thirty-two credits.

11V4, 8, 12, 16 Biology Laboratory Assistant I

Four, eight, twelve, or sixteen credits

Prepares materials, solutions, and equipment for use in the laboratory. May assist in the collection, preserving, and arrangement of specimens. May be repeated to a maximum of thirty-two credits.

12V8, 16 Nurse's Aide

Eight or sixteen credits

Assists the school nurse in the performance of routine and less skilled tasks in the care of infirmity patients. Assists in the taking of temperatures, providing food, and other duties in the care of dormitory students. Prepares materials; cleans and sterilizes materials and equipment. 12V8 may be repeated to a maximum of sixteen credits.

13V8, 16 Biology Laboratory Assistant II

Eight or sixteen credits

Assists in the correction of papers and the checking of laboratory reports. May be repeated to a maximum of thirty-two credits.

20V8, 12, 16 Biology Laboratory Assistant III (Teaching)

Eight, twelve, or sixteen credits

Is responsible for direction of a laboratory section in preparing material lists and supervising the laboratory assistants preparing the materials; also for the correction and checking of laboratory reports of students in the section which he instructs. Prerequisites: 16 credits in 10V, 11V, and 13V. 8 credits earned for assistance in one laboratory section; 12 for two laboratory sections which are duplicate sections; 16 credits for three duplicate sections or two sections of different subject matter. May be repeated to a maximum of thirty-two credits.

22V8, 16 Biological Bibliographer

Eight or sixteen credits

Compiles bibliographies for designated subjects; compiles special lists of books and classifies articles under supervision of the biology department and librarian. May be repeated to a total of sixteen credits.

23V8, 16 Biological Photographer

Eight or sixteen credits

Takes pictures of biological materials either from original specimens or by copying other pictures or drawings. Prepares microphotographs, enlargements; lantern slides, and color transparencies. Should have acquired previously skills equivalent to Phys 11V and 12V. May be repeated to a maximum of thirty-two credits.

30V8, 16 Bacteriology Laboratory Worker

Eight or sixteen credits

Prepares bacteriological media and solutions; performs chemical and bacteriological tests under directions of bacteriologist. Prerequisites: 8 credits each in 11V and Chem 11V. Credit in Chem 20V and 21V desirable. May be repeated to a maximum of thirty-two credits.

31V16 Cytologist (Laboratory Technician)

Sixteen credits

Selects and sections minute particles of animal or plant tissue for microscopic study chiefly by the paraffin method. Employs stain techniques to make cell structure or tissue structure visible. Prerequisites: 8 credits each in 11V and Chem 11V; Biol 123a,b; Biol 211a,b or 222a,b. May be repeated to a maximum of thirty-two credits.

32V8, 16 Junior Research Assistant

Eight or sixteen credits

Assists with original research projects under the direction of staff member. Prerequisites: 11V, 22V, and other units in biology and/or chemistry. May be repeated to a maximum of thirty-two credits.

33V8, 16 Plant Taxonomist

Eight or sixteen credits

Identifies and classifies plants. Assists with the keeping of the herbarium and making local collections. Prerequisites: 11V; Biol 113a; Biol 212b. May be repeated to a maximum of thirty-two credits.

40V16 Senior Research Assistant

Sixteen credits

Assists in original research projects of the department under the direction of the science staff. May be a continuation of research work started as Junior Research Assistant. Prerequisite: 32V16.

41V8, 12, 16 Medical Laboratory Assistant

Eight, twelve or sixteen credits

Performs chemical, microscopic, and bacteriological tests to provide data for use in treatment and diagnosis of disease. Also cleans glassware, equipment; prepares and sterilizes media and solutions. Prerequisites: 10V16 and/or 11V16; Chem 10V16 and/or 11V16; Biol 123a,b; Chem 113a,b; 214a,b; Phys 213, 223. Units in 12V, 30V, 31V and Chem 20V and/or 21V are desirable. Biol 354 may be corequisite. May be repeated to a maximum of thirty-two credits.

Department of Chemistry (Symbol: Chem)

The science of chemistry deals with the composition of matter and the changes it undergoes. In the following courses, our physical environment—the atmosphere, the earth's crust, plants, animals and derived products—is studied from the point of view of the composition of the substances involved, and the changes in composition which may occur. Theories of atomic and molecular structure are discussed. The chemical background for biological processes is presented. The conversion of naturally-occurring substances into products useful to man is noted in widespread fields.

The courses are designed to acquaint the student with the chemical aspects of our environment and our civilization, to develop the scientific attitude, and to give practice in the experimental method of approach to problems, to provide training in laboratory techniques, and to enable the student to acquire the chemical background necessary for certain specialized professions and vocational fields, such as medicine, dentistry, nursing, home economics, and agriculture, laboratory work in hospitals, or in research and industrial concerns, and teaching.

**Requirements for the Bachelor of Arts (B.A.) degree
with major in Chemistry**

<i>Courses</i>	<i>Semester Hours</i>
Art and/or music	4
Bible and religious education	16
English—including 113a,b	12
Mathematics 113; 123 or equivalent	6
Modern foreign language (French or German preferred)—two years of college work, in one language or equivalent	12
Social Studies—including Psychology 113; 12 hours elected from economics, geography, history, political science, sociology	15
Vocational subjects—selected from designated vocational course sequences*, with approval of major adviser	usually 8-12
Chemistry—excluding 234; including 12 hours of junior- senior standing	28

* See "Approved Vocational Course Sequences," page 39.

Electives—including minor of 18 hours of which 6 hours are junior-senior standing 19-23

Total 124

Vocational Training Units *V-Credits*

A. With emphasis on graduate study and/or industrial laboratory work.

Chem 10V8, 11V8, 20V8, 21V8, 30V8, 40V8 64

Electives from units in chemistry, biology, physics, engineering education (library), etc. recommended 56

Total 120

B. With emphasis on teaching

Chem 10V8, 11V8, 20V8, 40V16 72

Electives from units in chemistry, biology, or physics; engineering and education (library, audio visual) etc. recommended; (see special requirements under education curricula) 48

Total 120

C. With emphasis on medical or dental training

Chem 10V8, 11V8, 20V8, 21V8, 40V16 48

Electives from units in biology, engineering, and education (library) 72

Total 120

Requirements for minor in Chemistry

Courses

A total of 18 hours including 113a,b; 214a,b; 333a,b or 234 and 423a.

Vocational Training Units

A sequence of totaling 30 credits, units which must be approved by the adviser in the minor field.

Requirements for Public School Teaching in Chemistry

See Department of Education for curriculum details.

Descriptions of Courses

113a,b General Chemistry

Each course, three hours

Through lecture, discussion, and experiment, the fundamental concepts of chemistry are presented. Representative elements and their compounds are studied to show the nature of the physical universe and to give background for an understanding of chemical laws and theories. Individual work in the laboratory is closely correlated with classroom assignments. Quantitative experiments are performed to

show the exactness of chemical relationships. Two hours lecture-discussion and three hours quiz and laboratory per week. Laboratory fee: \$3.50 each course. Breakage deposit: \$5.00. Miss Woodland

113a offered fall semester; 113b offered spring semester.

214a,b Analytical Chemistry

Each course, four hours

During the first semester, the behavior of electrolytes in aqueous solution is studied. The experimental material is based upon qualitative methods for the separation and identification of metal ions. During the second semester, the fundamental principles and laboratory techniques of quantitative analysis are studied. The course includes gravimetric, volumetric, and potentiometric procedures. The techniques developed are essential to students desiring to become laboratory technicians, or to specialize in chemistry and in certain related fields. Two hours lecture-discussion and seven hours quiz and laboratory per week. Prerequisite: 113b. Laboratory fee: \$4.00 each course. Breakage deposit: \$4.00. Miss Woodland

214a offered fall semester (even-numbered years); 214b offered spring semester (odd-numbered years).

234 Organic-Physiological Chemistry

Four hours

This course is designed for majors in home economics and in agriculture. It presents the fundamentals of organic chemistry, with special reference to fats, proteins, and carbohydrates; and to their applications in the chemistry of digestion, metabolism, and excretion. Three hours lecture-discussion and one two-hour laboratory period per week. Prerequisite: 113b. Laboratory fee: \$3.50. Breakage deposit: \$5.00. Miss Woodland

Offered fall semester.

333a,b Organic Chemistry

Each course, three hours

A systematic study of the hydrocarbons and their derivatives, and of general organic reactions. The laboratory work gives training in the preparation and properties of type compounds, and in the use of reference material. Two hours lecture-discussion-quiz and three hours laboratory per week. Prerequisite: 113b. Laboratory fee: \$6.00. Breakage deposit: \$5.00.

333a offered fall semester (odd-numbered years); 333b offered spring semester (even-numbered years).

413 Chemistry in Industry

Three hours

A course primarily for engineering students and other nonmajors, dealing with the applications of chemistry in industry. Fundamental theoretical material is included, as background for an understanding of major chemical industries, wastewater treatment, metallurgy, alloys, etc. The writing of reports is an important phase of the course. Chemistry majors may take the course as an elective, in addition to the required courses. Prerequisite: 113b. Miss Woodland

Offered spring semester.

421a,b Experimental Physical Chemistry

Each course, one hour

Laboratory experiments dealing with the material of 423a,b.

Prerequisite or corequisite: 423a,b. Laboratory fee: \$4.00 each course.
Breakage deposit: \$5.00. Miss Woodland

Offered upon sufficient request.

423a,b Physical Chemistry *Each course, three hours*

A study of the principles of chemistry from an exact, quantitative standpoint. Behavior of matter in the various states; thermodynamic relationships; kinetics of reaction; molecular and atomic structure; phase equilibria; electro-chemistry. Prerequisite: 333b; Math 213 and 223, Calculus I and II, and Phys 213 and 223, General Physics, are strongly recommended but not required. Miss Woodland

Offered upon sufficient request.

Descriptions of Vocational Training Units

In general, any unit may be repeated, but no unit may be repeated for more than a total of 32 credits.

10V4, 8, 12, 16 Laboratory Aide (nonprofessional) *Four, eight, twelve, or sixteen credits*

Cleans and stores glassware and equipment; aids in maintenance of stockrooms and laboratories; learns laboratory techniques.

11V4, 8, 12, 16 Laboratory Aid (nonprofessional) *Four, eight, twelve or sixteen credits*

Prepares materials, solutions, and supplies for instructional use; learns laboratory techniques.

12V8, 16 Laboratory Technician (glasswork) *Eight or sixteen credits*

Develops skills in the techniques of glassblowing; repairs and maintains specialized glass apparatus and equipment.

13V8, 16 Laboratory Technician (Instruments) *Eight or sixteen credits*
Constructs and maintains special instrumental equipment.

20V8, 16 Analyst (Qualitative) *Eight or sixteen credits*
Performs routine qualitative analyses: prepares reagents for qualitative analyses.

21V8, 16 Analyst (Quantitative) *Eight or sixteen credits*
Calibrates weights and volumetric apparatus. Performs quantitative analyses. a

22V8, 12, 16 General Chemistry Laboratory Assistant *Eight, twelve, or sixteen credits*

Makes preparation for the laboratory work of the general chemistry course; supervises one or more sections; reads laboratory reports; cares for laboratory. Eight credits for supervision of one section; twelve credits for two sections; sixteen credits for three sections.

23V4, 8, 16 Bibliographic Assistant *Four, eight, or sixteen credits*

Prepares bibliographic projects in the library; maintains files of chemical materials; prepares special reports.

30V8, 16 *Advanced Laboratory Assistant* *Eight or sixteen credits*

Makes preparation for an advanced laboratory course; supervises sections; engages in related experimental projects; cares for laboratory.

31V8, 16 *Teaching Assistant* *Eight or sixteen credits*

Has responsibility for special-help sections; does individual tutoring; grades papers.

40V8, 16 *Junior Research Assistant* *Eight or sixteen credits*

Engages in special projects involving both library and laboratory work.

41V8, 16 *Science Broadcaster* *Eight or sixteen credits*

Writes and produces science programs for radio broadcast.

42V8, 16 *Science Demonstrator* *Eight or sixteen credits*

Produces programs for public demonstration, particularly in high schools.

43V4, 8 *Chemical Problems* *Four or eight credits*

Develops facility in solving problems pertaining to chemistry.

Department of Home Economics (Symbol: HEc)

The primary objectives of this department are education for personal and family living, and training for professional careers. The course offerings at this university are in the areas of marriage, family living, and child development; consumer education and family finance; home management and equipment; foods and nutrition; textiles, costume design, and clothing; home-planning, decoration, and furnishing.

Through selection of appropriate courses, students may prepare for highly-paid professional careers in clothing and fashion specialties, in food and nutrition, and in the teaching of home economics (not vocational). Various combinations of minor fields with this major can expand the choice of future careers, such as combining a major in home economics with a minor in radio production. This combination provides exceptional preparation for careers in that business field, where demand and salaries are far above the average.

The Vocational Training Program of John Brown University provides skills, techniques, and work experiences which advance the professional preparation of students in their selected careers.

Requirements for the Bachelor of Science (B.S.) degree with major in Home Economics

<i>Courses</i>	<i>Semester Hours</i>
Art 213, 232, 242	7
Bible and religious education	16
English—including 113a,b; 3 hours literature; 3 hours speech.	12
Natural Science—including Chemistry 113a,b; Mathematics 153; 3-4 additional hours elected from Biology 113a, 354;	

Chemistry 234; Mathematics 103, 113, 123; Science 113a	12-13
Physical education 113	3
Social Studies—including Psychology 113, 353; 6 hours history (113 and 123 recommended); Sociology 313	15
Home economics—including 113, 123, 133, 143, 253, 343, 353, 363, 433, 454, 481	38
Electives—including a minor* of 18 hours, of which 6 hours are of junior-senior standing	26-27
Total	120
 <i>Vocational Training Units</i> <i>V-Credits</i>	
HEC—including 10V8 11V8, or 12V8, 30V8, 31V8 or 40V8, 41V8 or 42V8; as approved by adviser	64
Electives—additional units from HEC or other department as approved by adviser	56
Total	120

Requirements for Minor in Home Economics

Courses

A total of 18 hours including 103 and 433, and 3 additional hours of junior-senior standing.

Vocational Training Units

A minimum of not less than 30 HEC credits to be selected with approval of the department adviser.

Descriptions of Courses

103 Fundamentals of Homemaking *Three hours*

This course explains to future homemakers the advantages of home economics study, and acquaints the student with certain phases of this field: nutrition and foods; consumer education; equipment and management; and art applied to the home. Includes demonstrations and field trips. Fee: \$2.00. Mrs. Filler

Offered fall semester.

113 Clothing and Fabric Study *Three hours*

This course offers the study and opportunity to know more about fabrics and the new fibers and blends of fibers which make them. The student gains knowledge of what is rightfully expected, and the type of care required for each. Color and design, and other factors in the selection of the individual's clothing are reviewed and used by the student in planning a wardrobe. This project entails study of accessories. Use of proper construction techniques will be discussed and

* Suggested minors for home economic majors: radio production; chemistry and biology for textile or food research; art. English; music; and education.

demonstrated. Two hours lecture-discussion and one two-hour laboratory period per week. Students who have had the equivalent of 113 may be exempted by examination. Fee: \$1.50. Mrs. Filler

Offered fall semester.

123 Clothing Fashion

Three hours

Fashion and the clothing industry are studied, and the leading designers of the day, especially those who are Americans. In laboratory, the student plans and makes an important garment for winter (if not planned in 113). One hour lecture-discussion and two two-hour laboratory periods per week. Prerequisite: 113, unless exempted. Fee: \$1.50. Mrs. Filler

Offered spring semester.

133 Elementary Nutrition and Foods

Three hours

This presents the elementary facts of nutrition in relation to good health; also, the scientific basic facts of food preparation with emphasis on methods which conserve nutrition. These facts are used in checking each student's diet and in menu planning. In laboratory, foods and simple meals are prepared. Two hours lecture-discussion and one two-hour laboratory period per week. Students who have had the equivalent of 133 may be exempted by examination. Fee: \$4.00.

Mrs. Filler

Offered fall semester.

143 Food Preparation and Service

Three hours

This course trains the student to plan, prepare, and serve meals for various occasions and on different income levels. Good laboratory management, proper care of foods, costs versus quality of materials, and use of appropriate table appointments and service are included. One hour lecture-discussion and two two-hour laboratory periods per week. Prerequisite: 133. Fee: \$4.00.

Mrs. Filler

253 Advanced Clothing

Three hours

The history of costume is studied. In laboratory, an ensemble for spring is planned and made. Patterns should be designed, or re-designed for this project. One hour lecture-discussion and two two-hour laboratory periods per week. Prerequisites: 123; Art 213, Design and Color. Fee: \$1.50.

Mrs. Filler

Offered spring semester.

343 House Furnishings and Equipment

Three hours

This course develops the student's knowledge of desirable types and designs of housing, furnishings, and equipment for homes with their proper arrangements, care, and use included. Examples are analyzed for beauty, utility, comfort and economy. Two hours lecture-discussion and two hours laboratory per week. Prerequisite: Art 213, Design and Color. Fee: \$1.50.

Mrs. Filler

Offered spring semester upon sufficient request.

344 Nutrition and Dietetics

Four hours

This course presents the principles of human nutrition and of dietary standards and needs for children, adults, and the family group.

Modifications required at various economic levels are included, and also those changes needed when faulty diet has caused subnormal conditions which can be recognized and studied by the student. Two hours lecture-discussion and two two-hour laboratory periods per week. Prerequisites: Chem 234, Organic Physiological Chemistry; Biol 354, General Bacteriology. Fee: \$4.00. Mrs. Filler

Offered spring semester.

353 *Consumers Economics*

Three hours

This is a study to develop standards for better selection of consumer goods; clothing, foods, equipment, home furnishings. Evaluation is made of the agencies aiding and protecting the consumer.

The best use of personal incomes, and of family incomes in the present economy are dealt with in study and as special working problems including demonstrations and other aids. Mrs. Filler

Offered fall semester.

363 *Home Nursing and Infant Care*

Three hours

This course presents material on recognition of common illnesses and care of the sick in the home, and includes the most needed information on home emergencies and first aid. Good nutrition and other positive health measures are emphasized. This information is applied as the student studies the development of the infant from conception through child birth and the preschool years. Care and guidance by the parents is studied and observed at each stage. Prerequisites: 103 or the equivalent; Pysch 113, General Psychology; PEd 113, Health and Safety suggested. Mrs. Filler

Offered fall semester.

423 *Creative Costume Designing*

Three hours

Copies of excellently designed costumes are studied, and also the inspirational sources for such creations. In laboratory, the student designs and makes a costume, preferably by the draping method. The design should succeed in being individual and illusively becoming. One hour lecture-discussion and two two-hour laboratory periods per week. Prerequisites: 253; Art 213, Color and Design. Mrs. Filler

Offered fall semester.

433 *Marriage and Family Living*

Three hours

This is a study of the family: its place in American life, its changes, and present responsibilities and hopes. Centered in this course is the college boy and girl who will make new families. Their growth in personal stature and maturity required for the worthy marriages and family life they seek and desire, is given lengthy consideration. Influences which aid in maintaining these standards in the developing couple and family are studied and stressed; influences which confuse and destroy, are noted and analyzed. Mrs. Filler

Offered spring semester.

443 *Creative Problems in Interiors and Furnishings*

Three hours

Source material for this study may come from all periods and adaptations and styles. The student draws house plans which are

designed or re-designed, plans the interiors and furnishings. Costs are estimated. Field trips are an essential part of this study. One hour lecture-discussion and two two-hour laboratory periods per week. Prerequisites: 343; Art 213, Color and Design, and three or more additional hours of art courses as advised by instructor in 443.

Mrs. Filler

Offered fall semester upon sufficient request.

453 Household Management

Three hours

Students, under supervision, manage and operate the Home Management House. One hour lecture-discussion per week. A fee is charged in addition to the rates charged for board and room. Prerequisite or corequisite: 353, 433.

Mrs. Filler

Offered spring semester 1959 and thence discontinued.

454 Home Management

Four hours

While living in the Home Management House with a faculty supervisor, students study management with emphasis on applying their knowledge in a friendly, desirable atmosphere. They plan and coordinate in carrying out the many activities involved in this situation similar to family living. One hour a week is given to group-study conferences with the supervisor, where checking and new planning take place. Each group, preferably of not more than six or eight, live in the House six weeks. Prerequisites: Senior standing in home economics, consent of the director, and 353.

Mrs. Filler

Offered upon sufficient request.

481 Seminar

One hour

The student follows a comprehensive program of readings and discussions dealing with problems and employment requirements related to positions open to home economists in various commercial fields. Special attention is given to recent developments and trends in textiles, the clothing industry, nutrition research, furnishings, and decoration. Prerequisite: Senior standing in home economics or consent of instructor.

Mrs. Filler

Offered fall semester.

Descriptions of Vocational Training Units

10V8, 12, 16 Home Management Aide Eight, twelve, or sixteen credits

Learns approved methods in care of living and dining room area of home economics building, artistic use of flowers and greenery, and furniture arrangement.

11V8, 12, 16 Foods Laboratory Aide Eight, twelve, or sixteen credits

Aids in care of laboratory, cabinets, and large equipment. Learns to check and store small equipment, laundry, and groceries.

12V8, 12, 16 Clothing Laboratory Aide Eight, twelve, or sixteen credits

Aids in care of laboratory, cabinets, and machines. Learns to store and care for small equipment and illustrative materials.

20V8, 16 *Laboratory Assistant* *Eight or sixteen credits*

Prepares materials for laboratory use, and for demonstrations; assists instructor. Prerequisites: 16 V-credits in 11V and/or 12V.

22V4, 8, 16 *Home Economics Bibliographer and Office Aide*
Four, eight, or sixteen credits

Compiles bibliographies for designated subjects; compiles special lists of books and classified articles under supervision of instructor and of librarian.

30V8, 12, 16 *Junior Research Assistant*
Eight, twelve, or sixteen credits

Assists with special research projects. Prerequisites: 20V and 22V.

31V4, 8, 16 *Junior Bibliographer* *Four, eight, or sixteen credits*

Compiles materials for class and student use from current professional magazines and other important sources. Stores material for effective use. Prerequisite: 22V.

40V4, 8, 12, 16 *Special Affairs Assistant*
Four, eight, twelve, or sixteen credits

Assists instructor with radio and other programs, and with special departmental affairs.

41V8, 16 *Class and Laboratory Teaching Assistant*
Eight or sixteen credits

Assists instructor with special class and laboratory problems. Prerequisites: 20V8, and junior-senior standing in home economics.

42V8, 16 *Senior Research Assistant* *Eight or sixteen credits*

Assists instructor in planning and carrying on research projects closely related to the student's interests. Prerequisites: 30V and junior-senior standing in home economics.

Department of Mathematics (Symbol: Math)

This department is regarded primarily as a service department, in that the majority of its students are preparing for work in one of the scientific fields, or in one of the branches of engineering. The course work offered, however, while emphasizing appropriate applications, is presented with suitable thoroughness and rigor. The student who is planning to teach mathematics in the public schools, or who anticipates graduate study in mathematics, is encouraged to consult with the department head in planning course sequences and in arranging to meet certification and other requirements.

Vocational training opportunities in the department include informal tutoring, conducting "help" sessions, preparation of bibliographies, abstracting journal articles, preparation and presentation of visual aid materials, checking papers and assisting generally in the department. Related experiences are available in the various laboratories.

Requirements for Minor in Mathematics

Courses

A total of 24 hours, including 313 and 6 additional hours of junior-senior standing.

Vocational Training Units

A sequence of units which must be approved by the adviser in the minor field totaling 30 credits.

Requirements for Public School Teaching in Mathematics

See Department of Education for curriculum.

Descriptions of Courses

100 Plane Geometry

Prerequisite credit only

The standard course in plane geometry, though accelerated for college students. This course is arranged for those whose college major requires advanced mathematics, and who have no credit for high school plane geometry.

Mr. Whitmore

Offered upon sufficient request.

103 Intermediate Algebra

Three hours

A course designed for the student whose background is sufficient for further study in mathematics. The subject matter is such that it is preparatory to 113. Fundamental principles, important operations with signed quantities, fractions, simple interest, solution of equations and logarithms.

Mr. Frye

Offered fall and spring semester.

113 College Algebra

Three hours

A standard course in the subject, scheduled to begin with the solution of quadratic equations. Prerequisite: 103, or satisfactory score on orientation tests.

Mr. Whitmore

Offered each semester and summer session upon sufficient request.

123 Plane Trigonometry

Three hours

A course containing the usual trigonometric functions; fundamental identities, trigonometric analysis, laws of sines, cosines and tangents, solution of triangles by natural functions and by logarithms. Also a study of the standard slide rule scales, with applications to computation and drill for speed and accuracy. Prerequisites: 100 and 103, or equivalent.

Mr. Cox, Mr. Whitmore

Offered each semester and summer session upon sufficient request.

133 Plane Analytic Geometry

Three hours

A study of loci and equations; graphical methods, with special emphasis on the conic sections; rectangular and polar coordinates; transformation formulae and parametric equations. Prerequisites: 113, 123.

Mr. Cox, Mr. Frye

Offered spring semester.

153 Introductory Mathematics*Three hours*

A course in selected branches of elementary mathematics designed to equip the general student with the skills, understandings and appreciations appropriate to the college educated person who will not pursue the usual specialized courses in mathematics. Credit not allowed if preceded by other college mathematics.

Mr. Cox, Mr. Whitmore

Offered each semester and summer session.

213, 223 and 313 Calculus I, II and III*Each course, three hours*

A study of the principles of the calculus. Differentiation and integration of functions; maxima and minima; curve tracing; the integral as the limit of a sum; problems in volumes, areas, rates, velocities, etc., centroids, series; multiple integrals and partial differentiation. Prerequisite: 133.

Mr. Cox

213 offered fall semester; 223 offered spring semester; 313 offered fall semester.

263 Mathematics of Finance*Three hours*

A course for students in business administration. Designed to give a knowledge of problems found in finance and statistics; compound interest, annuities, amortization, sinking funds, bonds, etc. Prerequisite: 153, or equivalent.

Mr. Cox

Offered spring semester.

302 Plane Surveying*Two hours*

For description, see Mechanical Engineering 302. Fee: \$3.00.

Mr. Olney

Offered fall semester.

333 Theory of Equations*Three hours*

A course intended for those who expect to teach algebra as well as for those who desire pure mathematics. A study of the complex variable, problems in constructibility, synthetic division, cubic and quartic equations, approximation of roots, determinants, etc. Prerequisite or corequisite: 313.

Mr. Cox

Offered fall semester.

343 Statics*Three hours*

For description, see General Engineering 343.

Mr. Dearborn

Offered fall semester.

363 Dynamics*Three hours*

For description, see Mechanical Engineering 363.

Mr. Dearborn

Offered fall semester.

413 Differential Equations*Three hours*

The solution of ordinary differential equations including homogeneous linear differential equations with variable coefficients. The study is primarily of the solution of problems from geometry, physics and engineering. Sufficient practice material is included for a thorough treatment of the subject. Prerequisite: 313.

Mr. Cox

Offered spring semester.

Descriptions of Vocational Training Units

31V8, 16 Teaching Assistant *Eight or sixteen credits*
Is responsible for special-help sections; tutoring; paper-grading; preparation of instructional materials.

41V8, 16 Bibliographic Assistant *Eight or sixteen credits*
Prepares bibliographic projects in the library; prepares abstracts of materials; reading reports.

42V8, 16 Advanced Teaching Assistant *Eight or sixteen credits*
Constructs mathematical models, apparatus, graphs, and charts.

Department of Physics (Symbol: Phys)

The department offers courses which strengthen the scientific background for majors in a variety of technical fields, which may serve as a basis for a secondary teaching field, and which may lead to a minor in the field.

Requirements for minor in Physics

Courses

A total of 18 hours including 213, 223, 323.

Vocational Training Units

A minimum of 30 credits taken from Phys 30V, 31V, and 32V as approved by departmental advisor.

Requirements for Public School Teaching in Physics

See Department of Education for curriculum details.

Descriptions of Courses

213 General Physics *Three hours*

An introduction to general mechanics with emphasis upon problems and other experimental and practical phases of the subject. Two hours lecture-discussion and one three-hour laboratory period per week, including problems and test. Prerequisite or corequisite: Math 123, Plane Trigonometry. Laboratory fee: \$4.00.

Mr. Frye

Offered fall semester.

223 General Physics *Three hours*

A continuation of 213. A survey of heat, electricity and magnetism. Prerequisite: 213. Laboratory fee: \$4.00.

Mr. Frye

Offered spring semester.

313 Elementary Thermodynamics *Three hours*

For description, see Mechanical Engineering 313.

Mr. Olney

Offered fall semester.

323 Sound, Optics and Modern Physics *Three hours*

An introduction to the principles of sound, light and atomic phenomena. Two hours lecture-discussion and one three-hour labora-

tory period per week, including problems and test. Prerequisite or corequisite: 223. Laboratory fee: \$4.00. Mr. Frye
Offered spring semester.

343 *Statics* *Three hours*
For description, see General Engineering 343 Mr. Dearborn
Offered fall semester.

363 *Dynamics* *Three hours*
For description, see Mechanical Engineering 363. Mr. Dearborn
Offered fall semester.

423 *Astronomy* *Three hours*
A descriptive and non-mathematical course designed to give a
general knowledge of the subject. Mr. Frye
Offered fall semester (odd-numbered years).

Descriptions of Vocational Training Units

10V8 *Cooperative Weather Bureau Assistant* *Eight credits*
Reads simpler types of weather instruments and tabulates meteorological data for U. S. Weather Bureau, and for local radio weather reports.

11V4, 8, 16 *Photographer Helper, Darkroom* *Four, eight, or sixteen credits*
Assists in darkroom duties, such as mixing chemical solutions, developing films and making contact prints and enlargements. May be repeated to a maximum of sixteen credits.

12V4, 8, 16 *Photographer Helper, Composition* *Four, eight, or sixteen credits*
Assists photographer in the taking of pictures for campus publications using press, miniature (35 mm), and copy cameras. Arranges and studies proper lighting, exposures, and films for various subjects and purposes. May develop film and do some darkroom work. May be repeated to a maximum of sixteen credits.

20V16 *Junior Photographer* *Sixteen credits*
Assumes responsibility for taking pictures of various activities and furnishing pictures for campus publications and for publicity purposes. Assumes responsibilities for training and supervising less advanced students in darkroom work required for the production of finished prints or transparencies. Prerequisites: 11V8, 12V8. May be repeated to a maximum of thirty-two credits.

21V4, 8 *Bibliographic Assistant* *Four or eight credits*
Compiles bibliographies pertinent to certain designated subjects in physics; also indexes and classifies articles pertaining to physics in various journals of science. May be repeated to a maximum of eight credits.

30V8, 16 Teaching Assistant

Eight or sixteen credits

Assists students who need help in assigned problems in physics or who may need help in performing laboratory experiments; also assists instructor in grading daily assignment papers and some laboratory reports. May be repeated to a maximum of thirty-two credits.

31V8, 16 Physics Laboratory Aide

Eight or sixteen credits

Assists in assembly and disassembly of laboratory equipment for regularly scheduled laboratory and for demonstrations; repairs equipment. May be repeated to a maximum of thirty-two credits.

32V8, 16 Physics Laboratory Technician

Eight or sixteen credits

Performs varied laboratory tasks, such as, classification and organization of laboratory equipment, design and construction of useful devices to be used in experimental physics, and/or some elementary research in the field. May be repeated to a maximum of thirty-two credits.





DIVISION OF SOCIAL STUDIES

Ellis, Jaderquist, Pickle, Taylor, Weathers (chairman), Wellman, White

The Division of Social Studies provides courses and curricula leading to a variety of objectives in keeping with the purposes and traditions of John Brown University. In addition to the curricula oriented to the various occupations, the Division offers a range of courses which are rich in the traditions and content of the liberal arts, making effective contribution to the general education needs of all students, regardless of their major fields.

The Division includes, respectively, Departments of Business, Education, Physical Education, Psychology, Economics, Geography, History, Political Science, and Sociology. Those preparing to enter either general business or secretarial science will select the appropriate curricula in the Department of Business. Persons intending to enter professions in law, medicine, the Christian ministry, or teaching may wish to complete majors and/or minors in this division.

In connection with his general education, it is desired that the student shall gain an understanding of the relation of the departments of the Division to one another and to the other divisions of human knowledge—relating the broad pattern of change and development in Western civilization, the influence of the Bible, Christianity, and the evangelical churches on the home, church, school, and the national economy and government on the position of America in world affairs.

It is desired that he shall gain an appreciation of the dignity of the individual, the values of the democratic process, the rights of minorities, the obligations of majorities, and the role of personal Christianity in all relationships: a willingness to recognize his own biases, to examine all sides of a question, to accept disagreeable facts, to offer and accept constructive criticism, to cooperate with others for desirable ends, and to accept responsibility as a citizen and participant in the world's work.

Overall, it is desired that he shall develop abilities to apply knowledge and skills acquired to the solution of personal and group problems, to understand and deal effectively with people of all ages and circumstances, and to formulate and express intelligent opinions in those areas in which knowledge and skill has been acquired.

Degree Requirements

For degree requirements in this division, see pages, as follows:

Bachelor of Arts—Social Studies	139, 140
Bachelor of Science—	
Business, general business option	122, 123
Business, secretarial science option	123
Elementary Education	129, 130
Secondary Education	130, 132
Bachelor of Music Education	132, 133

Requirements for minor in Social Studies

See page 140 for curriculum details.

Requirements for Public School Teaching in Social Studies

See Department of Education for curriculum details.

Suggestions for a Pre-Law Course of Two Years

Students planning to attend law school are expected to consult an adviser for the arrangement of their schedules during the freshman and sophomore years of study. In general, their courses for the first year should include Bible, a vocational subject, freshman English, a foreign language, History of Human Civilization, and Social Science I and II. It will prove to be especially helpful if students have previously chosen the particular professional schools which they wish to attend in order to fulfill special requirements for the institutions under consideration.

Department of Business (Symbol: Bus)

The student in the Department of Business has an unusual opportunity to receive practical experience in business while he obtains his education. He spends his daily vocational training in actual business operations at the University. The accounting department, various offices, and bookstore and coffee shop serve as laboratories where the student gains experience in business throughout his college career. This vocational training gives the student the experience about which employers inquire when he seeks a position upon completing his college work.

General Requirements in Business

The Department of Business offers two options in preparation for a business career—general business and secretarial science.

The course requirements listed below are designed in view of careful study of the requirements of accrediting agencies, demands of employers, and nationwide research to determine the courses most universally believed by educational authorities to form the basis of a well-rounded business program.

It is suggested that the business student minor in English, mathematics, or social studies. It is further suggested that, early in his program planning, the student seriously consider, in addition to meeting graduation requirements, the advisability of using his elective courses to meet the requirements for certification as a commercial teacher.

Requirements for Bachelor of Science (B.S.) degree with major in Business, general business option

<i>Courses</i>	<i>Semester Hours</i>
Bible and religious education	16
English—including 113a,b; 6 hours literature and/or speech	12

Natural Science—including 6 hours laboratory science, Mathematics 153 or equivalent, Mathematics 263	12
Social Studies—including Psychology 113; Economics 213, 223, and 6 hours junior-senior courses in economics; additional courses (history recommended) from economics, geography, history, political science, sociology	21
Business—including 123 or equivalent, 133, 173, 183, 223, 303, 443, 483	36
Electives—including minor of 18 hours, of which 6 hours must be of junior-senior standing	33
Total	130

<i>Vocational Training Units</i>	<i>V-Credits</i>
Bus 10V	8
Bus 12V and/or 13V	16
Bus 20V, 22V, 31V	48
Bus 32V and/or 41V	16
Electives	40
Total	128

Requirements for Bachelor of Science (B.S.) degree
with major in Business, secretarial science option

<i>Courses</i>	<i>Semester Hours</i>
Bible and religious education	16
English—including 113a,b; 6 hours literature and/or speech	12
Natural Science—including 12 hours laboratory science, or 6 hours laboratory science and 6 hours mathematics	12
Social Studies—including Psychology 113; 6 hours economics; additional courses (history recommended) from economics, geography, history, political science, sociology	15
Business—including 113 or equivalent, 123, 143, 153, 173, 183, 213, 223, 233, 303, 313, 353 or 433	36
Electives—including minor of 18 hours, of which 6 hours must be of junior-senior standing	39
Total	130

<i>Vocational Training Units</i>	<i>V-Credits</i>
Bus 11V, 12V, and/or 14V	16
Bus 20V	16
Bus 21V	16
Bus 30V	16
Bus 30V, 40V, and/or 41V	16
Electives	48
Total	128

Descriptions of Courses

113 Elementary Typewriting *Three hours*

Principles of technique and mastery of the keyboard. Development of skill in the manipulation of the operative parts of the typewriter. Practice in paragraph writing, tabulation, and letter arrangement. Fee: \$3.00. Mrs. Taylor

Offered each semester.

123 Intermediate Typewriting *Three hours*

Further development of basic typing facility, particularly in speed and accuracy. Additional work in business correspondence, statistical reports, and manuscript preparation. Prerequisite: 113, or equivalent. Fee: \$3.00. Mrs. Taylor

Offered spring semester; summer session upon sufficient request.

133 Introduction to Business *Three hours*

Introductory course in the fundamentals of our economic and social institutions which relate directly to business. Survey of basic principles, forms, and practices involved in administration of a business firm. Mrs. Taylor

Offered fall semester.

143 Principles of Shorthand *Three hours*

Fundamental principles and basic vocabulary of simplified Gregg shorthand. Development of skill in reading shorthand plates and in the writing and transcription of simple business letters. Prerequisite or corequisite: 113, or equivalent. Mrs. Taylor

Offered fall semester; summer session upon sufficient request.

153 Intermediate Shorthand *Three hours*

Continuation of 143. Review of principles and basic vocabulary of simplified Gregg shorthand; development of shorthand speed; foundation for accurate, rapid transcription. Prerequisite: 143, or equivalent. Prerequisite or corequisite: 123, or equivalent. Mrs. Taylor

Offered spring semester; summer session upon sufficient request.

173, 183 Elements of Accounting *Each course, three hours*

An introduction to the field of business, dealing with the principles which are fundamental to all accounting, providing the students who major in business with the background necessary for further study, and serving those students not majoring in business with a knowledge useful in business endeavors. One hour lecture-discussion and two 2-hour laboratory periods per week. Laboratory fee: \$1.00. Mr. Wellman

173 offered fall semester; 183 offered spring semester.

213 Advanced Typewriting *Three hours*

Production skill in the typing of advanced office projects, such as complex tabulated reports, commonly used legal papers, and all types of business letters. A high degree of proficiency in speed and accuracy is stressed. Prerequisite: 123, or equivalent. Fee: \$3.00. Mrs. Taylor

Offered fall semester; summer session upon sufficient request.

223 Business Correspondence

Three hours

Practical business letter writing. Mechanics, techniques, and psychological principles of effective business correspondence. Composition of all types of business letters. Prerequisite: Engl 113b, Communications. Prerequisite or corequisite: 123, or equivalent.

Mrs. Taylor

Offered spring semester; summer session upon sufficient request.

233 Advanced Shorthand

Three hours

Intensive practice in reading, dictation, and transcription of business letters and literary articles. Improvement in shorthand style and accuracy of transcription. Three hours lecture-discussion and two hours laboratory periods per week. Prerequisites: 123 and 153, or equivalent.

Mrs. Taylor

Offered fall semester.

243 Advanced Shorthand

Three hours

Rapid dictation and transcription of many types of business correspondence. Emphasis on commercially acceptable quality and quantity of stenographic productivity. Three hours lecture-discussion and two hours laboratory periods per week. Prerequisite: 233, or equivalent. Prerequisite or corequisite: 213, or equivalent. Fee: \$1.00. Mrs. Taylor

Offered spring semester.

303 Business Psychology

Three hours

Practical psychological approach to human relations in business. Emphasis on development of character and personality traits, personal efficiency, leadership qualifications, group cooperation, methods and problems of the business field. Prerequisite: Psych 113, General Psychology, or consent of instructor.

Staff

Offered fall semester (even-numbered years).

313 Advanced Dictation

Three hours

Development of high speed and skill in shorthand outline construction, leading to the automatization of the shortcuts. Intensive dictation and transcription of advanced business correspondence and court reporting. Three hours lecture-discussion and two hours laboratory periods per week. Prerequisite: 243, or equivalent. Prerequisite or corequisite: 213, or equivalent.

Mrs. Taylor

Offered fall semester (even-numbered years).

323 Retail Selling

Three hours

Retail store management, location, buying, selling, advertising, merchandise control, policies, services, pricing, expenses, and profits; training supervision of retail sales forces; administrative problems. Prerequisite: Econ 213, Principles of Economics, or consent of instructor.

Mr. Wellman

Offered spring semester (even-numbered years).

333 Money and Banking

Three hours

Fundamental theories of money and banking and relation of

money and banking to business. Prerequisite: Econ 223, Principles of Economics. Mr. Wellman

Offered spring semester (odd-numbered years).

343 *Marketing*

Three hours

Study is made of many of the basic commodities and an analysis of the more important processes and establishments which assist in getting them from the producer to the consumer. Prerequisite: Econ 223, Principles of Economics, or consent of instructor. Mr. Wellman

Offered fall (odd-numbered years).

353 *Problems in Secretarial Science*

Three hours

Comprehensive treatment of secretarial duties that are performed in modern business offices. Filing, duties of a receptionist, handling financial records, arranging itineraries, personality development, and office relations. Prerequisites: 123 and 153, or equivalent. Mrs. Taylor

Offered spring semester (odd-numbered years).

373 *Corporation Finance*

Three hours

This course deals with the financial problems of the modern business corporation. Methods of financing corporations are studied, including the various types of stocks and bonds and the use of the syndicate and investment houses in marketing large issues of securities. Prerequisites: Bus 183, Elements of Accounting; Econ 223, Principles of Economics. Mr. Wellman

Offered spring semester (even-numbered years).

423 *Advertising*

Three hours

Advertising—its economic role, layout, illustrations, copy, color, trademarks, slogans, media, campaign, and testing of results. Study of buying motive of consumers, and practical applications of preparing advertising copy. Mr. Wellman

Offered spring semester upon sufficient request.

433 *Office Management*

Three hours

Fundamental principles of office organization and management. Classification of office activities, distribution of authority and responsibility, employment, promotion, compensation, measurement of efficiency, office procedure, office layout, equipment, personnel, indexing, and filing. Prerequisite: 12 hours secretarial science or general business; junior standing, or consent of instructor. Mrs. Taylor

Offered spring semester (even-numbered years).

443 *Commercial Law*

Three hours

Basic principles of the written and unwritten laws which control modern business transactions. Deals with such topics as contracts, negotiable and other instruments, property, sales, agencies, partnerships, corporations, and labor relations. Prerequisite: Consent of instructor. Mr. Wellman

Offered fall semester (odd-numbered years).

483 Insurance

Three hours

Fundamental principles common to all insurance; risk and risk bearing; types of insurance (file, life, casualty; marine, surety); rate structure and procedure; insurance management. Mr. Wellman

Offered fall semester (even-numbered years).

Descriptions of Vocational Training Units

10V8, 16 Retail Salesperson

Eight or sixteen credits

Displays, explains, and sells merchandise to customers. Receives payment or secures credit authorization. Cares for stock and places new merchandise on shelves, racks, or stands, keeping stocks orderly. Takes periodic inventories of stock.

11V8 Receptionist—PBX Operator

Eight credits

Handles requests directed to switchboard by campus visitors or telephone calls, receiving and transmitting messages, giving information, suggesting sources of more complete information, or directing visitors to persons they wish to see. Operates switchboard serving campus telephones. When not engaged in handling calls, performs a variety of additional assigned duties.

12V16 Mailroom Clerk

Sixteen credits

Sells postage, postal cards, and stamped envelopes in large or small quantities. Operates addressograph, graphotype, and postage meter machine. Computes mailing costs of letters and parcels.

13V8, 16 Clerk-Typist

Eight or sixteen credits

Does general clerical work. Requires the use of typewriter in the accomplishment of a majority of the duties. Typewrites letters, reports, and other matter from rough draft or corrected copy. Files records and reports. Makes out bills and answers telephone.

14V2 Newspaper Circulation Manager

Two credits

Supervises distribution of copies of *Threefold Advocate* to regular recipients; also exchanges with other college newspapers.

20V16 Teller—Posting Clerk

Sixteen credits

Receives, pays out, and keeps accurate records of money involved in banking transactions. Records details of transactions, such as names, dates, serial numbers and amounts involved so that pertinent data may be distributed among the several departments for recording, filing, and clearing. Operates posting machine.

21V16 Clerk—Stenographer

Sixteen credits

Performs stenographic and general clerical duties, such as filing correspondence, operating a duplicating machine, and compiling reports.

22V16 Bookkeeper

Sixteen credits

Keeps systematic set of records of business transactions of establishment, examining and recording transactions in record book

and on forms. Compiles reports at regular intervals to show receipts and disbursements. Operates adding machine. May be repeated to a maximum of 32 credits.

23, 33, 43V8, 16 *Teaching Assistant* Each unit, eight or sixteen credits

Carries responsibility for special help sessions, tutoring, and paper grading, and otherwise assists an instructor or professor.

24V8 *Newspaper Business Manager* Eight credits

Sells advertising space in *Threefold Advocate* through contact with local advertisers and with agents of non-local advertisers. Maintains general control and keeps accurate records relating to business transactions in interest of publication.

30V16 *Secretary* Sixteen credits

Performs general office work in relieving executives and other responsible persons of minor executive and clerical duties. Takes dictation, using shorthand. Transcribes shorthand or machine recorded dictation. Makes appointments; handles mail; may keep personnel records. May be repeated to a maximum of 32 credits.

31V16 *Accounting Clerk* Sixteen credits

Performs routine calculating, typing, and posting duties in accounting. Checks items on reports, summarizing and posting data to designated books. Performs a variety of other clerical duties, such as making up invoices, or monthly statements, preparing payrolls, verifying bank accounts, keeping record files, making up periodic reports of business activities, and listing and checking details as instructed. May operate adding machine. May be repeated to a maximum of 32 credits.

32V16 *Salesman, Radio Broadcasting* Sixteen credits

Contacts prospective buyers of radio time and submits sample programs to them in an effort to sell the time and facilities of the broadcasting station. Informs the Director of results. May write advertising copy and continuity. May be repeated for a maximum of 32 credits.

34V8, 16 *Yearbook Business Manager* Eight or sixteen credits

Sells advertising space in *Pioneer* through contact with local advertisers and with agents of non-local advertisers. Maintains general control and keeps accurate records relating to business transactions in interest of publication.

40V16 *Private Secretary* --- Sixteen credits

Performs clerical and minor executive duties of a personal or private nature. May be repeated to a maximum of 32 credits.

41V16 *Public Relations Assistant* Sixteen credits

Assists public relations personnel in the promotional activities of the University. Selects and assembles favorable publicity material, releasing it through various advertising media. Scans statements of

policy to secure most favorable publicity. Purchases advertising space. May be repeated to a maximum of 32 credits.

42V16 General Accountant

Sixteen credits

Supervises subordinates engaged in maintenance of accounts and records. Balances books periodically and prepares financial statements for administrative officers, showing items, such as receipts, disbursements, expenses, and profit and loss. May be repeated to a maximum of 32 credits.

Department of Education (Symbol: Educ)

Two chief characteristics qualify John Brown University in a peculiar way to provide professional training for teachers. These are the emphases upon evangelical Christianity and upon vocational competence, as essential parts of every successful, integrated life. The work of this department is accredited by the Arkansas State Department of Education as acceptable in the preparation of teachers for certification to teach in the public schools of Arkansas, and the requirements in the various fields correspond to the regulations set by the State Board of Education for the various certificates.

Sufficient offerings in the usual professional courses permit students to qualify for certification in the surrounding area. However, students who plan specifically to teach in states other than Arkansas should seek to meet the specific requirements set forth by the certification authorities in the respective states where they expect to teach.

Although students pursuing education curricula must complete majors in fields other than education—because the required education courses constitute a minor rather than a major—such students should confer with members of the Department of Education as early in their college work as possible. This will help them to be assured of including the proper professional work in their courses of study.

Satisfactory performance in student teaching is required for the completion of each teacher preparatory curriculum. This work is done in cooperation with the local public schools after approval and acceptance by faculty members of the University and of the public schools, following the execution of a form similar to an application for the regular employment as a teacher.

Elementary Education

Requirements for the Bachelor of Science (B.S.) degree in Elementary Education with major in English or Social Studies

<i>Courses</i>	<i>Semester hours</i>
Art—including 222 but not 232 or 242	4
Bible and religious education	16
English—including 113a,b, 233, 3 hours literature or speech	12
Music—including 152, 272	4

Natural Science—including Mathematics 153 or equivalent*; General Science 113a,b or 123a,b, 203	12
Physical education—including 113, 213	6
Social Studies—including Psychology 113; Geography 233 or 313; History 113, 123, 323a,b; Sociology 113, 123	24
Vocational subjects—selected from designated vocational course sequences**, with approval of major adviser	usually 8-12
Education—including 213 or 353, 313, 333, 373, 412, 452 or 462, 463a,b	22
Major subject (English or social studies) —including 12 hours of courses of junior-senior standing and prescribed courses listed above from the area of the major	24
Minor subject (social studies, English, or science recommended) —including 6 hours of courses of junior-senior standing and prescribed courses listed above from the area of the minor	18
Total (including any additional electives)	124
<i>Vocational Training Units</i> <i>V-Credits</i>	
Educ 10V and/or 30V	16
Educ 15V and/or 35V	16
Educ 26V, 36V, and/or 46V	16
Units related to major field or vocational course sequence	30
Electives	42
Total	120

Secondary Education

Requirements for the Bachelor of Science (B.S.) degree in
Secondary Education with major in Art, Biology, etc.

<i>Courses</i>	<i>Semester Hours</i>
Art or music (Art 222 and Music 272 recommended)	4
Bible and religious education	16
English—including 113a,b; 6 hours literature, or 3 hours literature and 3 hours speech	12
Natural Science—including one year of laboratory courses; Mathematics 153, or equivalent*	12
Physical education—including 113	6
Social Studies—including Psychology 113; 6 hours history; additional courses from economics, geography, political science, sociology	15
Vocational subjects—selected from designated vocational course sequences**, with approval of major adviser	usually 8-12
Education (minor)—including 213 or 363, 313, 323, 333 or 412, 453a,b	18

* Three hours of other mathematics or science may be substituted in
case equivalent proficiency is established by examination.

** See "Approved Vocational Course Sequences," page 39.

Major subject (first teaching field)—including 12 hours of work of junior-senior standing and prescribed courses listed above from the area of the major subject*	24
Minor subject (second teaching field)—including no less than 3, preferably 6 or more, hours of junior-senior standing and prescribed courses listed above from the area of the second teaching field*	18
Total (including any additional electives)	124
<i>Vocational Training Units</i>	<i>V-Credits</i>
Educ 10V and/or 30V	16
Educ 15V and/or 35V	16
Educ 26V, 36V, and/or 46V	16
Units related to major field or vocational course sequence	30
Electives	42
Total	120

Specific requirements for various subjects as first teaching fields

(based on standards suggested by subcommittee of Arkansas' Advisory Council on Teacher Education)

- Art*, 26 semester hours—including 113, 222, 232, 242, 342, 352.
- Biology*, 24 semester hours—plus 9 semester hours in a related science.
- Business*, 30 semester hours, or equivalent—including 113, 123, 133, 143, 153, 173, 183, 223, 233, 433.
- Chemistry*, 24 semester hours—plus 9 semester hours in a related science.
- English*, 24 semester hours—including 113a,b, 393, 413, 423, but no more than 6 hours speech.
- General Science*, 24 semester hours—including a minimum of 8 semester hours each in biology, chemistry, and physics.
- Home Economics*, 34 semester hours—including 8 semester hours comprised of 363 together with Education 353 and 363, or equivalent; including 9 semester hours comprised of 343, 443, and 454, or equivalent; 9 semester hours comprised of 133, 143, and 344, or equivalent; 8 semester hours comprised of 113, 123, 253, or equivalent (6 semester hours related art also required.)
- Mathematics*, 18 semester hours—including 113, 123, 133, 213, 223, 313.
- Physical Education*, 25 semester hours—including 3 semester hours of activity courses, 113, 303, 313, 323, 412, 422.
- Physics*, 24 semester hours—plus 9 semester hours in a related science.

* See "Specific requirements . . . teaching fields," listed immediately following secondary education curriculum outline.

Social Studies, 20 semester hours—including 6 semester hours from History 113, 123 and Economics 113, 123; 6 semester hours, History 323a,b; 8 semester hours from at least 3 departments among: economics, geography, political science, sociology.

Recommendation to students wishing to teach in states other than Arkansas

Any student planning to teach in a state other than Arkansas should attempt to meet the requirements of that particular other state.

Music Teacher Training

Requirements for the Bachelor of Music Education (B.Mus. Educ.) degree with major in Voice, in Piano or in other Instruments

<i>Courses</i>	<i>Semester Hours</i>
Bible and religious education	16
English—including 113a,b; may include 3 hours speech	12
Natural Science—113a,b or 123a,b suggested; Music 303 recommended	12
Physical education—including 113	6
Social Studies—including Psychology 113; Sociology 433 recommended for women students	15
Education—including 213 or 363, 313, 323, 333 or 412, 453a,b or 463a,b	18
Music theory—including 165a,b, 232, 242, 243a,b*, 272, 372, 412 or 452, 442	28
Applied music—including 4 hours in piano, 2 hours in voice, and 2 hours in instruments; 16 hours in the major field**	20-30
Electives	1-4
Total	130
 <i>Vocational Training Units</i>	 <i>V-Credits</i>
A. For major in Voice	
Mus 11V8; 12V4	12
Mus 36V4, 8; 38V4; 46V4, 8	16
Mus 32V4 and/or 37V4	8
Mus 25V4; 35, 45V4 and/or 31V4	12
Mus 10, 20, 30, 40V4, 8	64
Electives	12
Total	124

* To satisfy certain teaching objectives, 6 hours in a second teaching field (to total 18 hours in English, social studies, or science) may be substituted for Music 243a,b. Approval must be secured from the major adviser.

** Class lessons in voice and instrument (except piano) may be taken (to a maximum of two semesters credit in each) in partial fulfillment of the requirements in applied music.

B. For major in Piano	
Mus 11V8; 12V4 or 14V4	12
Mus 13, 23V4, 8; 33, 34V4, 8	12
Mus 36V4, 8; 38V4; 46V4, 8	16
Mus 32V or 37V	4
Mus 25V, 35V, or 45V	4
Mus 10, 20, 30, 40V4, 8	64
Electives	12
Total	124
C. For major in Wind or Stringed Instruments	
Mus 11V8; 14V8	16
Mus 34V	4
Mus 36V8; 38V4; 46V8	20
Mus 32V4 and/or 37V4	8
Mus 10, 20, 30, 40V4, 8	64
Electives	12
Total	124

Descriptions of Courses

- 213 Educational Psychology** *Three hours*
 See course description under Psychology 213. Prerequisite: Psych
113, General Psychology. Staff
 Offered upon sufficient request.
- 313 Orientation in Education** *Three hours*
 Orientation in the general field of education, with emphasis upon
 the American public school, its history, function, organization, cur-
 riculum, and relation to society. Staff
 Offered fall semester; summer session upon sufficient request.
- 323 General Methods and Guidance, Secondary** *Three hours*
 Introduction to approved teaching techniques, for the secondary
 school, and the fundamentals of guidance. Staff
 Offered spring semester; summer session upon sufficient request.
- 333 Educational Tests and Measurements** *Three hours*
 Fundamental statistical procedures, kinds of tests, marks, and
 marking systems; general use, merits, and demerits of measurements.
 Prerequisites: 213 or equivalent; 313. Fee: \$3.00 for sample tests. Staff
 Offered spring semester and summer session.
- 342 Audio-Visual Education** *Two hours*
 A study of the materials, methods of presentation, and equipment
 in audio-visual education. Staff
 Offered upon sufficient request.
- 353 Child Psychology** *Three hours*
 See course description under Psychology 353. Staff
 Offered fall semester

363 *Psychology of Adolescence and Adulthood* Three hours
See course description under Psychology 363. Staff
Offered spring semester.

373 *General Methods, Primary and Elementary* Three hours
This is a course dealing with methods of teaching, pupil activities, motivation, and curriculum materials. It is an integrated program in imparting the fundamental processes in the primary and elementary fields. Prerequisites: 213 or 353, and 313. Staff
Offered spring semester; summer session upon sufficient request.

412 *Course of Study Construction* Two hours
A study of educational objectives, and approved procedures for building curricula and individual courses upon them, with special emphasis upon the coordination of vocational and academic courses in secondary schools. Prerequisite: junior standing in education. Staff
Offered fall semester upon sufficient request.

452 *Special Methods in Arithmetic and Science* Two hours
Materials and methods for teaching number work or arithmetic and science in the primary and elementary grades. A study of the child's needs in the mastery of the basic facts of arithmetic and science. Prerequisites or corequisites: 213 or 353, 313 and 373. Staff
Offered summer session upon sufficient request.

453a *Directed Teaching, Secondary* Three hours
An integrated course designed to familiarize the student with the methods, content of curriculum, and the best practices in his particular field. Approximately 35 clock hours are devoted to lectures and discussions and 50 clock hours to observation. Prerequisites: 323; approval of written application for Directed Teaching. Staff
Offered fall semester.

453b *Directed Teaching, Secondary* Three hours
Continuation of 453a. Lesson planning and methods receive major emphasis, also skill in handling the class. Approximately 20 clock hours are given to conferences and discussions; 90 clock hours are given to supervised teaching. Prerequisite or corequisite: 453a. Staff
Offered fall and spring semesters.

462 *Special Methods in Reading and Language Arts* Two hours
Materials and methods of teaching reading and language arts in the primary and elementary grades. The course deals with the most economic methods of teaching reading—the skills, attitudes and appreciations. Prerequisite or corequisite: 213 or 353; 313; 373. Staff
Offered summer session upon sufficient request.

463a *Directed Teaching, Elementary* Three hours
An integrated course to prepare the teacher of primary or elementary school subjects for entry into full-time teaching. It includes observation, an integration of methods in the student teacher's particular field. Approximately 35 clock hours are devoted to lectures and discus-

sions; 50 clock hours are given to observation and conferences. Prerequisites: 373 or equivalent; 452 or 462 recommended; approval of written application for Directed Teaching. Staff

Offered fall semester.

463b Directed Teaching, Elementary

Three hours

Continuation of 463a. Special emphasis is given to lesson planning and methods, also to most effective methods of handling class. Approximately 20 clock hours are given to conference and discussions; 90 clock hours are devoted to regular supervised teaching. Prerequisite or corequisite: 463a. Staff

Offered fall and spring semesters.

Descriptions of Vocational Training Units

10V, 30V4, 8, 16 Librarian Assistant Four, eight, or sixteen credits

Performs variety of duties in facilitating use of library materials. May assist in acquisition processing and/or in general library maintenance. May be repeated for a maximum of thirty-two credits.

15V, 35V4, 8, 16 Audio-Visual Assistant Four, eight, or Sixteen credits

Performs variety of duties in facilitating use of audio-visual materials. Assists in procurement and handling of films, filmstrips, etc., keeps records of their use, and may operate various types of projection equipment. May be repeated to a maximum of thirty-two credits.

26V, 36V, 16 Teacher Aide

Eight or sixteen credits

Performs a variety of non-professional duties, in assistance to a regular faculty person. May mark errors on written work, score objective test answer sheets, do limited tutoring of slow learners or persons who have missed work because of absences, compile grade reports, etc.

46V8, 16 Teacher Assistant

Eight or sixteen credits

Performs various duties similar to those of regular faculty person. May conduct class sessions or regular help sessions in absence of regular instructor, make provisional assignments of grades on written work. etc.

Department of Physical Education (Symbol: PEd)

This department provides theory and activity courses in health and physical education and directs a comprehensive program of intramural athletics and a limited program of intercollegiate athletics. The department seeks to direct students in beneficial physical development, including better health, a variety of neuromuscular skills, and encouragement to proper social conduct.

Courses are given to meet the general requirement in health and physical education prescribed by the State Department of Education for those desiring to be certified as teachers for the public schools

of Arkansas. Sufficient work is offered—as enrollments permit courses to be available—for the prospective secondary school teacher who desires to qualify in physical education as a first or second teaching field.

Participation in intramural and intercollegiate athletics is optional. Faculty control prevents students from neglecting their regular educational programs in favor of athletic activities.

Requirements for major or minor in Physical Education

See Secondary Education curriculum, pages 130, 131, for details. See physical education adviser and dean of the faculty regarding availability of courses.

Descriptions of Courses

- | | |
|---|------------------------------|
| 101a,b Basketball | <i>Each course, one hour</i> |
| Instruction and practice in basketball. | Mr. White |
| 101a offered fall semester; 101b offered spring semester. | |
| 111a,b Gymnastics | <i>Each course, one hour</i> |
| Systematic physical activities in the gymnasium, including gymnastics, trampoline, and calisthenics. | Mr. White |
| 111a offered fall semester; 111b offered spring semester. | |
| 121 Beginner's Swimming | <i>One hour</i> |
| Instruction and practice in swimming. | Mr. White |
| Offered summer session. | |
| 131 Beginner's Tennis | <i>One hour</i> |
| Deals with serve, stroke, rules, and scoring of lawn tennis. | Mr. White |
| Offered spring semester. | |
| 141 Badminton and Archery | <i>One hour</i> |
| Instruction and practice in badminton and archery. Fee: \$2.00. | Mr. White |
| Offered fall semester. | |
| 201a,b Track and Field Activities | <i>Each course, one hour</i> |
| Instruction and practice in track and field events. | Mr. White |
| 201a offered fall semester; 201b offered spring semester. | |
| 213 Methods and Materials for Elementary Schools | <i>Three hours</i> |
| A study in the theory and practice of selecting, organizing, and teaching the activities suitable for the elementary school child. Based upon the Suggested Course of Study for Elementary Schools in Arkansas. Two hours lecture-discussion and two hours direction of group games per week. | |
| Offered upon sufficient request. | |

- 221 Intermediate Swimming* *One hour*
 Instruction and practice in swimming. Prerequisite: facility in bodily control in deep water. Mr. White
 Offered summer session.
- 231 Advanced Tennis* *One hour*
 Review and analysis of strokes; study of correct tactics; participation in tournament play. Prerequisite: 131 or consent of instructor. Mr. White
 Offered upon sufficient request.
- 232 First Aid* *Two hours*
 Fundamentals of first aid, leading to the standard and advanced Red Cross certificates. Mr. White
 Offered upon sufficient request.
- 303 Methods and Materials for Secondary Schools* *Two hours*
 Similar to 213, but organized to stress the essential features of a well-balanced secondary school program in physical education. One hour lecture-discussion and two hours direction of activities per week. Mr. White
 Offered upon sufficient request.
- 312 Theory and Practice of Coaching Track* *Two hours*
 Theory and analysis of track and field events; training and conditioning. Prerequisite: consent of instructor. Mr. White
 Offered upon sufficient request.
- 313 History and Principles of Physical Education* *Three hours*
 A study of the historical background and the aims and objectives of physical education; its standards, ideals, principles, and policies; the place of physical education in modern life. Prerequisite: four or more hours of physical education. Mr. White
 Offered upon sufficient request.
- 321 Advanced Swimming* *One hour*
 Advanced swimming, life saving, and water safety. Prerequisite: demonstrated ability in the water. Mr. White
 Offered summer session.
- 323 Administration of Health and Physical Education* *Three hours*
 Organization and administration of physical education department and classes in public schools, colleges, communities, and camps. How to organize, conduct, and officiate in athletics and sports, physical education classes, health and first aid classes, intramural and inter-scholastic activities. Development of sportsmanship. Prerequisite: four or more hours of physical education. Mr. White
 Offered upon sufficient request.
- 412 Theory and Practice of Coaching Basketball* *Two hours*
 Methods in offense and defense; styles of play; strategy; rules

interpretation, etc. Prerequisite: consent of instructor. Mr. White
Offered upon sufficient request.

413 Intramural Sports *Three hours*

The course deals with organizing and conducting intramural programs for public schools and colleges. Prerequisite: consent of instructor. Mr. White

Offered upon sufficient request.

Descriptions of Vocational Training Units

11V8 Assistant Coach *Eight credits*

Assists in preparing fields and courts for contests. Maintains equipment.

14, 24, 34, 44V8 Athletic Trainer *Each unit: Eight credits*

Assists in management of athletic groups, in applying adhesive tape for protection of contestants, and in first aid activities for athletes.

21V8 Assistant Coach *Eight credits*

Participates in, and assists in direction of, activities related to the development and operation of JBU intramural athletic program.

22, 32, 42V2, 4, 8 Lifeguard *Each unit: Two, four, or eight credits*

Maintains alertness to swimmer needs of assistance in water; assists JBU pool manager with operational routine and in control of conduct of swimmers. (Credit dependent upon season.) Prerequisite: Red Cross senior life-saving certificate.

23V2, 4, 8 Swimming Pool Manager *Two, four, or eight credits*

Learns and applies state laws governing swimming pool operation, at JBU pool. (Credit dependent upon season.)

31, 41V8 Coach *Each unit: Eight credits*

Supervises, leads, and directs recreational and athletic activities involving JBU students and community children.

Department of Psychology (Symbol: Psych)

There is no phase of life in which an understanding of man's nature and the principles that underlie human behavior are not essential. To give this understanding to the students from both a scientific and practical viewpoint is the purpose of this department.

Descriptions of Courses

113 General Psychology *Three hours*

A scientific study of the principles underlying human behavior, insofar as these can be determined. An attempt is made to make the course practical by leading the student to get a better knowledge of himself and of other people. Staff

Offered each semester and summer session.

213 Educational Psychology

Three hours

This course considers the general principles of psychology as they apply to problems in education. Motivation, emotion, adjustments, intelligence, measurements, learning, transfer, and growth are studied in their relation to the school program. Prerequisite: 113, or equivalent.

Staff

Offered upon sufficient request.

303 Business Psychology

Three hours

For description of course, see Business 303.

Staff

Offered fall semester (even-numbered years).

353 Child Psychology

Three hours

A basic human growth and development course dealing with physical, mental, emotional, and social aspects of children from infancy to adolescence—with particular attention to child care and guidance. Special attention is given to problems with which parents and teachers are concerned. Two hours lecture-discussion and three hours laboratory per week. Prerequisite: 113, or equivalent.

Staff

Offered fall semester.

363 Psychology of Adolescence and Adulthood

Three hours

A continuation from 353, through the transition from childhood into maturity and dealing with psychological aspects and problems of human development throughout adulthood. Special attention is given to problems relating to the home, the school, the church, and the community. Two hours lecture-discussion and three hours laboratory per week. Prerequisite: 113, or equivalent; 353 recommended.

Staff

Offered spring semester.

**Requirements for the Bachelor of Arts (B.A.) with degree
major in Social Studies**

Courses

Semester Hours

Art and/or music	4
Bible and religious education*	16
English—including 113a,b	12
Modern foreign language—two years of college work, or equivalent, in one language	12
Natural Science—including 12 hours of laboratory science, or 6 hours laboratory science and 6 hours mathematics	12
Vocational subjects—selected from designated vocational course sequences**, with approval of major adviser	usually 8-12
Social Studies—including Psychology 113; History 113, 323a,b, 123***, 313 or 333; 18 hours from one department among	

* Religious Education 413, 453, and Bible 322 suggested.

** See "Approved Vocational Course Sequences," page 39.

*** History 123, 313, or 333 may be waived by examination and a substitute permitted.

economics, geography, history, political science, sociology; remainder from three additional among same departments	39
Electives—including a minor of 18 hours of which 6 hours are junior-senior standing	17-21
Total	124

Vocational Training Units

No specific units are required for this major, but the student will choose units to total the required 120 V-credits in view of his ultimate vocational objective—in consultation with his major adviser. A substantial portion of his chosen units should be in the area of his minor subject and/or that of his vocational course sequence.

Requirements for a minor in Social Studies

Courses

A total of eighteen hours—including six hours of junior-senior standing from one department—consisting of six hours history and six hours each from any two additional departments among economics, geography, political science, sociology.

Vocational Training Units

No specific units are required for this minor, but a substantial portion of the student's chosen units will be related to his vocational course sequence.

Requirements for Public School Teaching in Social Studies

See Department of Education for curriculum details.

Department of Economics (Symbol: Econ) Descriptions of Courses

113, 123 *Social Science I, II* *Each course, three hours*

For description of courses, see Sociology 113, 123. Staff
113 offered fall semester; 123 offered spring semester.

213, 223 *Principles of Economics* *Each course, three hours*

A survey of economic science, involving the principles underlying the production, valuation, exchange, consumption, and distribution of wealth. Mr. Wellman

213 offered fall semester; 223 offered spring semester.

313 *Economic Geography* *Three hours*

A treatment of the industries by which people exploit the farm, range, forest, mine, and routes by which commodities move from producing to consuming areas. Mrs. Jaderquist

Offered spring semester (even-numbered years).

- 333 Money and Banking** *Three hours*
 Fundamental theories of money and banking and the relation of money and banking to business. Prerequisite: 223. Mr. Wellman
 Offered spring semester (odd-numbered years).
- 353 Consumer Economics** *Three hours*
 For description of course, see Home Economics 353. Staff
 Offered fall semester (even-numbered years).
- 363 Social Control** *Three hours*
 For description of course, see Sociology 363. Mrs. Jaderquist
 Offered spring semester (odd-numbered years).
- 393 Modern Industry** *Three hours*
 The course deals with the background of modern industrial development, characteristics of modern industry, manufacturing industries, and the process of exchange. Prerequisite: 223. Staff
 Offered fall semester (odd-numbered years).
- 463 Labor Problems** *Three hours*
 For description of course, see Sociology 463. Staff
 Offered spring semester (even-numbered years).

Department of Geography (Symbol: Geog) Descriptions of Courses

- 233 Principles of Geography** *Three hours*
 This course is devoted to a study of man's physical environment with a view to developing a definite knowledge and appreciation of the relationship between human and environmental activities. Mrs. Jaderquist
 Offered spring semester (odd-numbered years).
- 313 Economic Geography** *Three hours*
 For description of course, see Economics 313. Mrs. Jaderquist
 Offered spring semester (even-numbered years).

Department of History (Symbol: Hist) Descriptions of Courses

- 113 History of Human Civilization, Ancient and Medieval** *Three hours*
 This is a study of world events from the beginning of man's recorded history. It emphasizes the geographic, political, military, economic, social, and institutional life of peoples as civilization spread through Asia, Africa, Europe, and the Americas, up to 1660 A.D. Staff
 Offered fall semester; summer session upon sufficient request.
- 123 History of Human Civilization, Modern** *Three hours*
 This is a study of world events from the age of Louis XIV to the present. It emphasizes the rise of nations, the struggle for com-

merce and colonies, the attempts to dominate Europe, the political, intellectual, industrial, agricultural, and social revolutions, the expansion of Christianity and western culture, international, organizations, and the search for world security. **Staff**

Offered spring semester; summer session upon sufficient request.

313 Europe Since 1789

Three hours

Beginning with the French Revolution, this course treats the Napoleonic Wars and their consequences, the Congress of Vienna and the Metternich System of international organization, revolution and reaction, Prussian and Russian imperialism, the unification of Germany and Italy, the great alliances and the balance of power, the rise of the middle class, the expansion of western culture and science, the rise of Marxism, Fascism, and Communism, the two world wars, the League of Nations and the United Nations, the Korean and the 'cold war.'

Mr. Ellis

Offered fall semester (odd-numbered years).

323a,b The United States of America

Each course, three hours

An integrated course dealing with the institutions and civilization of the United States, its human geography and history from the earliest European discoveries to the present time. It is designed to meet the needs of citizens of all professions and walks in life for such an understanding of social, political, and cultural life of this country as will prepare them to serve more effectively as citizens or as representatives of America in other parts of the world. Special emphasis is laid on such aspects as the development of the colonies, struggle for freedom, emergence of government, political parties, frontier life, development of democracy, contest for States' rights, sectionalism, and nationalism, geographical expansion, industrial and cultural growth, rise to world leadership, the world wars, return to "normalcy," the depression, the new and fair deals, and present administration.

Mr. Ellis

323a offered fall semester; 323b offered spring semester. Offered summer sessions upon sufficient request.

333 History of English and the British Empire

Three hours

A study of the British people from 1485 to the present. Stress is placed on the evolution of Parliament, the courts and the common law; the struggle with the Papacy; the commercial, agricultural, and industrial revolutions; domestic institutions; the Civil War; development of sea power; loss of the American colonies; triumph of Parliament; development of responsible government; the accident of empire; the dominion and the commonwealth developments; the world wars and the loss of international leadership.

Mr. Ellis

Offered fall semester (even-numbered years).

413 Seminar in History

Three hours

Designed to meet the need of social studies and History majors for advanced study in historical fields of their own choices or special interests, whether it be Canadian, English, French, Latin American, or United States history—political, social, cultural, or economic. Papers

and oral reports are required and discussed in class. May be repeated for credit.

Mr. Ellis

Offered upon sufficient request.

Department of Political Science (Symbol: Polit) **Descriptions of Courses**

123 Social Science II

Three hours

For description of course, see Sociology 123.

Staff

Offered spring semester.

453 International Relations

Three hours

This course makes a study of international relations of the leading countries, the nature of forces back of them, regional factors, geopolitics, power politics, and ideological warfare, with emphasis on current world problems.

Mr. Ellis

Offered upon sufficient request.

Department of Sociology (Symbol: Soc) **Descriptions of Courses**

113, 123 Social Science I, II

Each course, three hours

These courses are primarily those of orientation in the field of modern social science and are designed to deal with various social, economic, and other institutions in the broadest and most practical aspects. The second semester deals chiefly with political and governmental institutions.

Staff

113 offered fall semester; 123 offered spring semester.

313 Principles of Sociology

Three hours

This course is a practical approach to the principles of sociology. Social institutions and conditions are studied. Causes and effects of various social conditions are emphasized.

Mrs. Jaderquist

Offered fall semester (even-numbered years).

353 Rural Sociology

Three hours

Rural conditions as found in the home, school, church; rural social, economic, and political institutions; strong and weak points in rural life.

Mrs. Jaderquist

Offered spring semester (even-numbered years).

363 Social Control

Three hours

A study is made of the nature and problems of social regulation; factors in social control; public opinion and social control; propaganda—its origin, nature, and influence.

Mrs. Jaderquist

Offered spring semester (odd-numbered years).

433 Home-Family-Society Relationships

Three hours

For description of course, see Home Economics 433.

Staff

Offered spring semester.

463 *Labor Problems*

Three hours

The background of labor relations, problems of income of the workers, human conservation and labor legislation, collective bargaining and labor organizations, approach to the employer, and problems of readjustment of labor since 1929.

Staff

Offered spring semester (even-numbered years).

INDEX

A	C
Accounts 24	Calendar 2
Accreditation 1, 17	Candidacy for Degree 37
Activities	Changing Registration 31
Calendar 2	Chapel Attendance 34
Extracurricular 20	Chemistry, Department of 106-110
Student 19-21	Choir, Cathedral 51
Additional Expenses 24, 25	Christian Service
Administration	(see Bible and Religion)
Curriculum 27-41	Church Music 51
Officers 4	Class Attendance 32, 33
Admission	Class Work, Grades in 34
By Certificate 27, 28	Classification of Students 29, 30
By Examination 28	Commencement Awards 35, 36
General Requirements 27	Commerce (see Business)
In-Service Teachers 29	Condition Removal Examinations 32
Procedures 27-29	Conduct, Standards of 20, 21
Special Students 28, 29	Correspondence Work
To Courses 32	Acceptable Toward Degrees 36, 37
With Advanced Standing 28	Special Instruction 18
Advanced Standing 28	Cost of Attendance 22-27
Affiliated Schools 10, 11	Courses
Agriculture, Department of 97-100	Admission to 32
Aid, Student Financial 25-27	Designations 40, 41
Airport 17, 23	Dropping (Changing) 31
Application	Courses of Instruction (see General
Deposit 22	Requirements; Divisions; and
Directed Teaching 129	Departments)
Procedures 27-29	Credits
Senior Standing and Candidacy	Semester Hours (for courses) 29
for Degree 37	V-Credits (for vocational
Art, Department of 42-44	training) 31, 40, 41
Articles of Faith 9	Curriculum, General 36-41
Arts and Literature, Division	
of 42-68	
Athletics 19, 20, 135, 136	
Attendance Regulations 32-34	
Admission to Courses 32	
Chapel 34	
Class Attendance 32	
Increase in Graduation Re-	
quirements 33	
Vocational Training 33, 34	
Awards 35, 36	
B	D
Bachelor's Degrees, Require-	Daily Schedule 19
ments for 36-40	Day Students 22, 24
Bible and Religion, Division	Degrees, General Requirements
of 69-77	for (also see individual cur-
Bible, Department of 71-73	ricula for specific require-
Biology, Department of 100-106	ments) 36-40
Board and Room 22	Degrees Offered 36
Board of Trustees 3	Dental (Pre-Dental) 95
Breakage Deposit	Departments
(see course description)	Agriculture 97-100
Building Construction and Design,	Art 42-44
Department of 80-84	Bible 71-73
Business, Department of 122-129	Biology 100-106
	Building Construction and
	Design 80-84
	Business 122-129
	Chemistry 106-110
	Economics 140, 141
	Education 129-135
	Electrical Engineering 84-88
	English 44-49
	General Engineering 78-80
	General Science 95-97
	History 141-143
	Home Economics 110-115
	Mathematics 115-118

JOHN BROWN UNIVERSITY BULLETIN

Mechanical Engineering	88-93	Make-up and Condition	
Modern Foreign Languages	49-51	Removal	32
Music	51-64	Placement	29
New Testament Greek	73	Expenses	22-25
Physical Education	135-138	Extracurricular Activities	20
Physics	118-120		
Political Science	143	F	
Psychology	138, 139	Faculty	4-8
Radio Production	64-67	Administration	4
Religious Education	73-77	Instruction	4-8
Sociology	143, 144	Staff	8
Speech	67, 68	Fees	22-24, 32
Deposits		Financial Aid, Student	25-27
Application	22	Financial Arrangements (see Cost	
Breakage (see course descriptions)		of Attendance)	22-27
Room	22	Flight Instruction	23
Distinguished Service Award	35	Foreword (inside front cover)	
Divisions of Instruction	13, 42-144	Founder's Scholarships	26
Arts and Literature	42-68	French Language	49, 50
Bible and Religion	69-77		
Engineering	78-93	G	
Natural Science	94-120	General Engineering, Department	
Social Studies	121-144	of	78-80
Doctrinal Statement	9	General Information	9-11
Dormitories, Care of	20	Articles of Faith	9
Dropping Courses	31	Historical and Physical	
		Background	9-11
E		Location and General Facilities	11
Economics, Department of	140, 141	Visitors to the University	11
Education		General Requirements	36-41
Elementary	129, 130	General Science, Department of	95-97
Music	132, 133	German Language	49, 50
Physical	135-138	Grade Points	30, 34-37
Religious	73-77	Grading Systems	34, 35
Secondary	130, 131	Graduation Fee	24
Education, Department of	129-135	Graduation Requirements	36-40
Educational Program	12-18	Grants-in-Aid	26
Accreditation	1, 17		
Areas of Occupational		H	
Emphasis	13, 14	Historical Statement	9-11
Divisions of Instruction	13, 42-144	History, Department of	141-143
Individual Attention	18, 21	Home Economics, Department	
Opportunities for Veterans	17	of	110-115
Special Instruction	18	Home Economics Requirement	37
Summer School	17	Honors	35, 36
Threefold Education	14, 15	Hospitalization	22, 23
University Objectives	12, 13	Hours, Credit	29
Vocational Training			
.....	15-17, 31, 33-35, 40, 41	I	
Electrical Engineering, Depart-		Incomplete Grades	34
ment of	84-88	Individual Attention	18, 21
Elementary Education	129, 130	Individual Resourcefulness, Plan	
Endowment Industries	17	for Developing	33
Engineering		Industries	17
Electrical	84-88	Instruction	
General	78-80	Divisions of	13, 42-144
Mechanical	88-93	Faculty	4-8
Shops	16, 17	Special Instruction	18
Engineering, Division of	78-93		
English, Department of	44-49	K	
Evidence of Enrollment and		KUOA and KUOA-fm, University	
Assignment	31, 32	Radio Stations	16, 17
Examinations			
Admission	28		

JOHN BROWN UNIVERSITY BULLETIN

L

Laboratory Fees (also see course descriptions)	23
Languages, Modern Foreign	49-51
Late Enrollments	22, 31
Leaves of Absence	20
Loans to Students	26, 27
Location and General Facilities	11

M

Make-up and Condition Removal Examination	32
Mathematics, Department of	115, 118
Maximum Load	30
Meal Tickets (see day students)	
Mechanical Engineering, Department of	88-93
Medical Courses (Pre-Medical)	94
Medical Fee	22
Memorial Scholarships	25, 26
Modern Foreign Languages, Department of	49-51
Music	
Applied	57-59
Fees	23, 56, 57
Organizations	51, 52
Preparatory Groups	52
Private Lessons	56-58
Music, Department of	51-64
Music Teacher Training	132, 133

N

Natural Science, Division of	94-120
New Testament Greek, Department of	73
Nursing (Pre-Nursing)	95

O

Objectives of the University	12, 13
Officers of Administration	4
Opportunities, Work	16, 17, 25
Organization, Instructional	13
Organizations, Musical	51, 52, 59
Organizations, Student	20
Orientation Week	29

P

Physical Education, Department of	135-138
Physical Plant	9-11, 16, 17
Physics, Department of	118-120
Pioneer, The	24
Placement Examinations	29
Plan for Developing Individual Resourcefulness	33
Political Science, Department of	143
Practice Fees	23, 57
Pre-Dental Course	95
Pre-Law Course	122
Pre-Medical Course	94
Pre-Nursing Course	95
Preparatory Groups, Music	52
Pre-Professional Courses, Other	95

Psychology, Department of	138, 139
Public Performance	20

R

Radio Engineering (see Electrical Engineering)	
Radio Production	64-67
Radio Stations KUOA and KUOA-fm	16-17
Refunds	24
Registration Fees	22
Registration Procedures	29-32
Registration, Changing	31
Religious Education, Department of	73-77
Requirements	
Admission	27, 28
Attendance	32-34
Degree (also see individual curricula)	36-41
Grade-Point Average	30, 34-37
Home Economics	37
Junior-Senior Courses	37
Participation in Commencement	36
Residence	36
Second-Bachelor's Degree	37
Senior Standing	30
Specific	40
Subject-Matter Group	38, 39
Vocational Subjects	38-40
Vocational Training	15, 16, 31, 33, 34, 40
Room, Board, and Tuition	22
Room Deposit	22
Rules and Regulations	19-21

S

Schedule, Daily	19
Scholarships	25, 26
Science (see Natural Science)	
Secondary Education	130-132
Secretarial Science	123
Semester Hours (for courses)	29
Senior Standing	30, 37
Sequences, Approved Vocational Course	39, 40
Service Scholarships	26
Social Life	19
Social Studies, Division of	121-144
Sociology, Department of	143, 144
Spanish Language	49-51
Special Instruction	18
Special Students	22, 23-30
Speech, Department of	67, 68
Staff	
Administrative	4
Instructional	4-8
Non-instructional	8
Standards of Conduct	20, 21
Stations KUOA and KUOA-fm	16, 17
Student Activities	19-21
Athletics	19, 20, 135, 136
Daily Schedule	19
Extracurricular	20
Individual Attention	21

JOHN BROWN UNIVERSITY BULLETIN

Leaves of Absence	20
Organizations	20
Public Performance	20
Social Life	19
Standards of Conduct	20, 21
Student Financial Aid	25-27
Student Handbook	21
Student Loans	26, 27
Student Newspaper (see Three- fold Advocate)	
Student Organizations	20
Summer School	17
Symbols, Department (see individual departments)	

T

Teacher Training (see Education)	
Threefold Advocate	24
Threefold Education	14, 15
Time Limits on Accounts	24
Transcripts	32
Tuition	22

U

Unclassified Students	30
University Objectives	12, 13
University Organization (Divisions	

of Instruction)	13
University Press	17

V

Valuables	25
V-Credits (for vocational train- ing)	31, 40, 41
Veterans, Opportunities for	17
Visitors to the University	11
Vocational Course Sequences, Approved	39, 40
Vocational Training (also see de- partments) 15-17, 31, 33-35, 40, 41	
Grades	35
Opportunities	16, 17
Participation	15, 16, 33-35, 40, 41
Requirements	15, 16, 31, 33, 34, 40
Units	31, 33, 34, 40, 41

W

Withdrawal from University	32
Woodworking (see Building Con- struction and Design)	80-84
Work Opportunities	25, 26

Y

Yearbook (see The Pioneer)	
----------------------------	--

UNIVERSITY OF ILLINOIS-URBANA



3 0112 105818246